AMERICAN

FABRICS

NUMBER FOUR ★ 1947 ★ FIVE DOLLARS A COPY

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Number Four Fall 1947

Fashion Begins with the Fabric

American Fabrics

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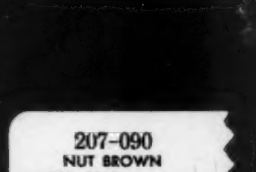

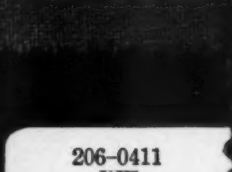

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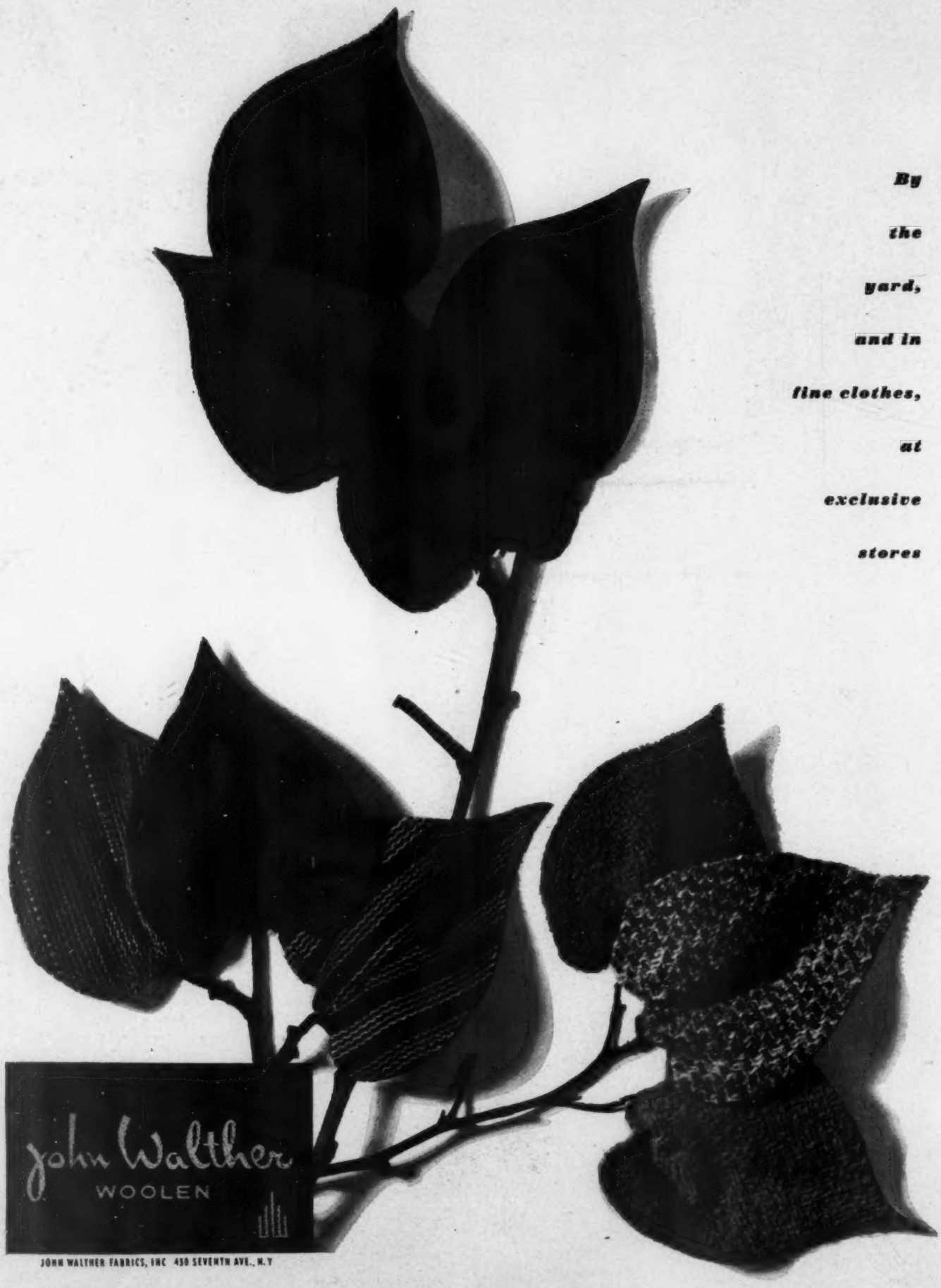
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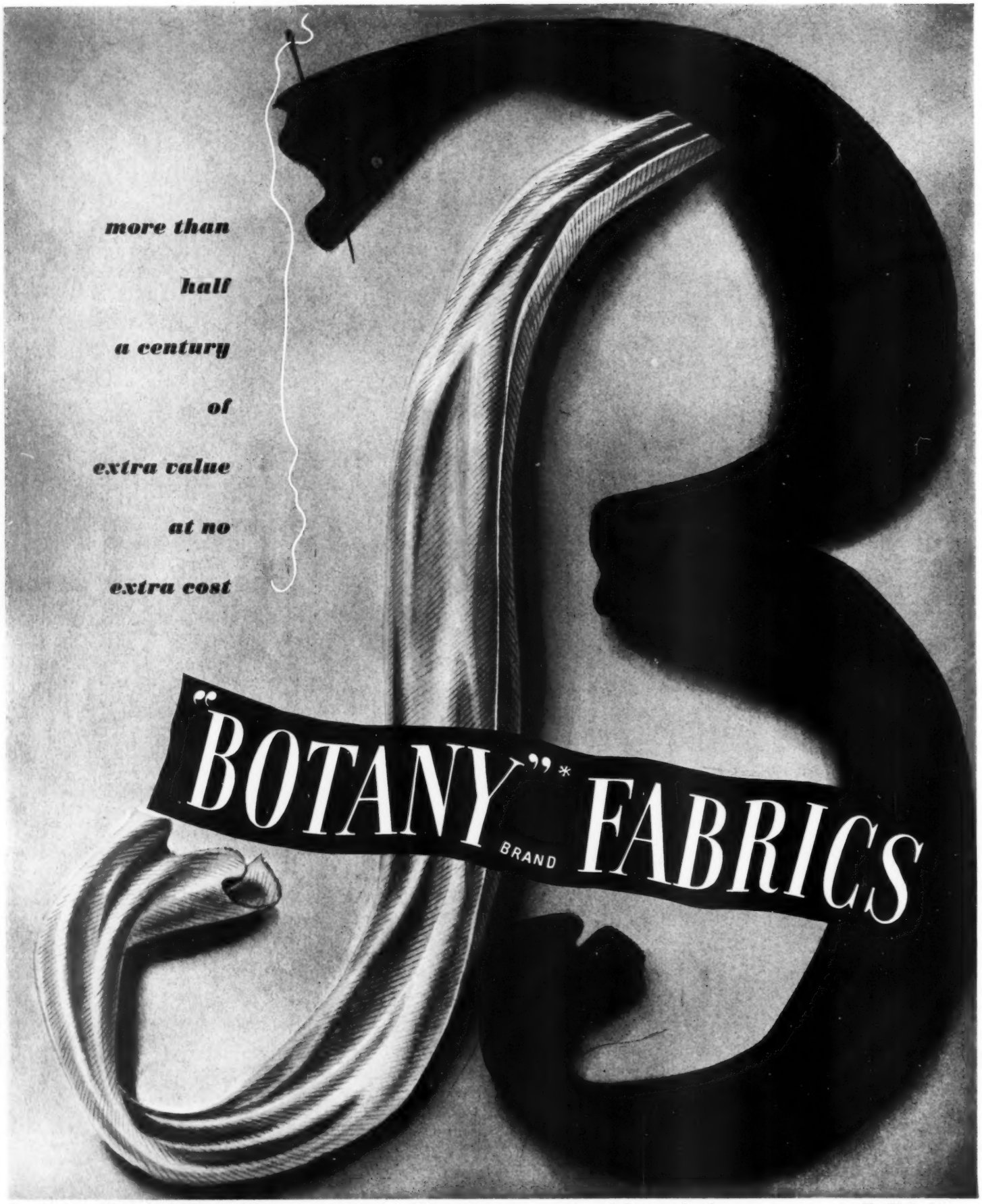

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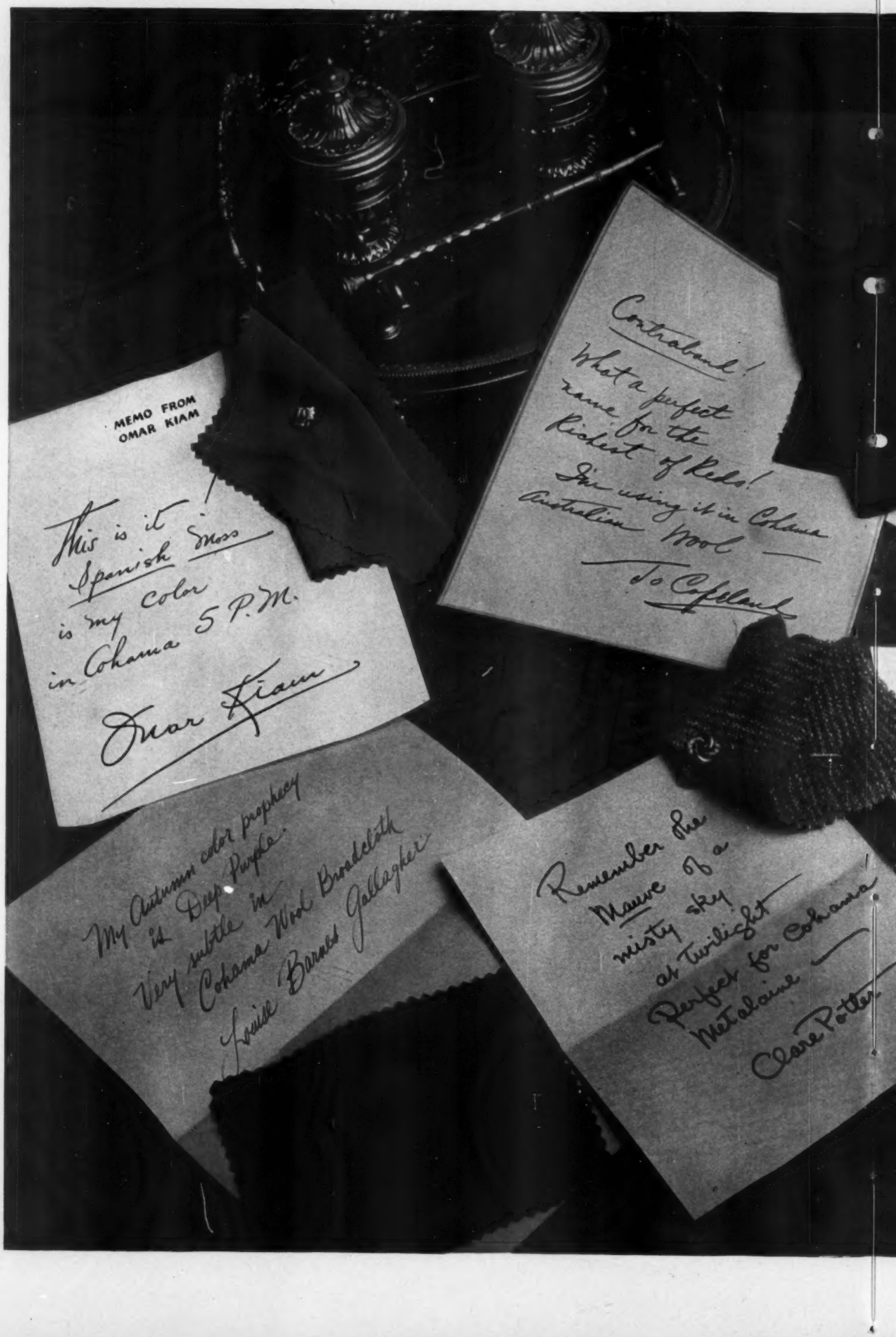
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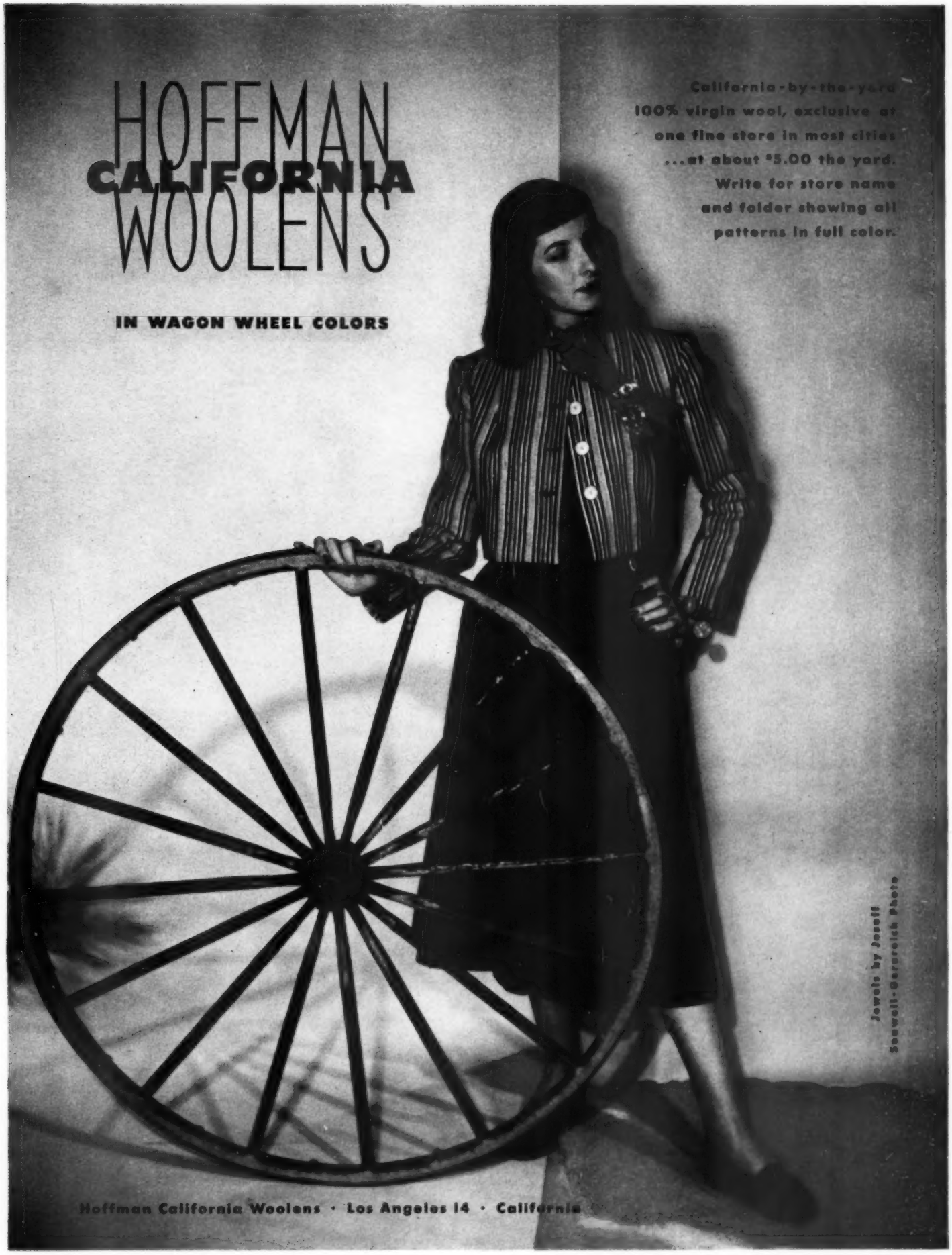

Vogue Patterns—3104 Jacket—3108 Skirt

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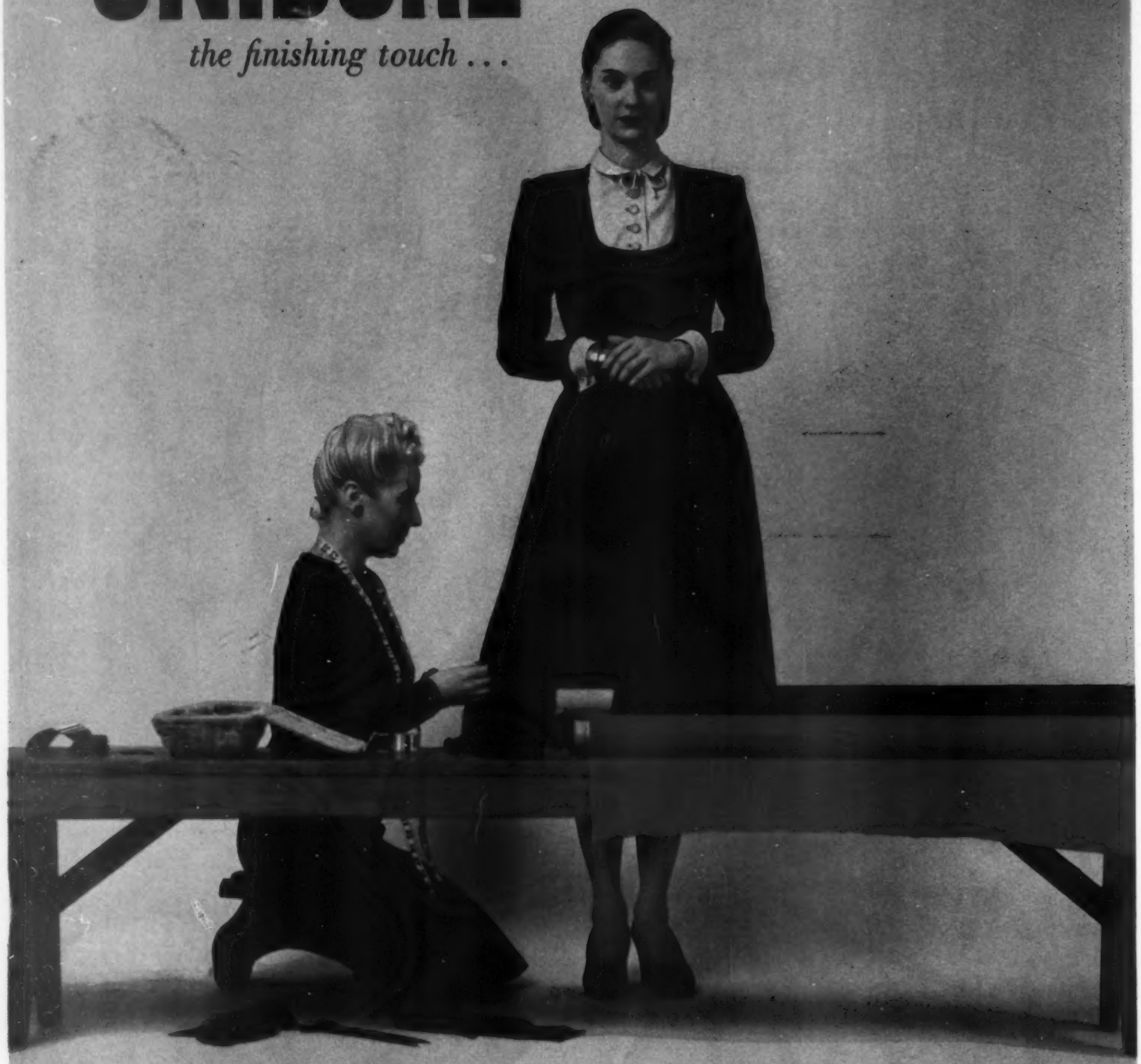

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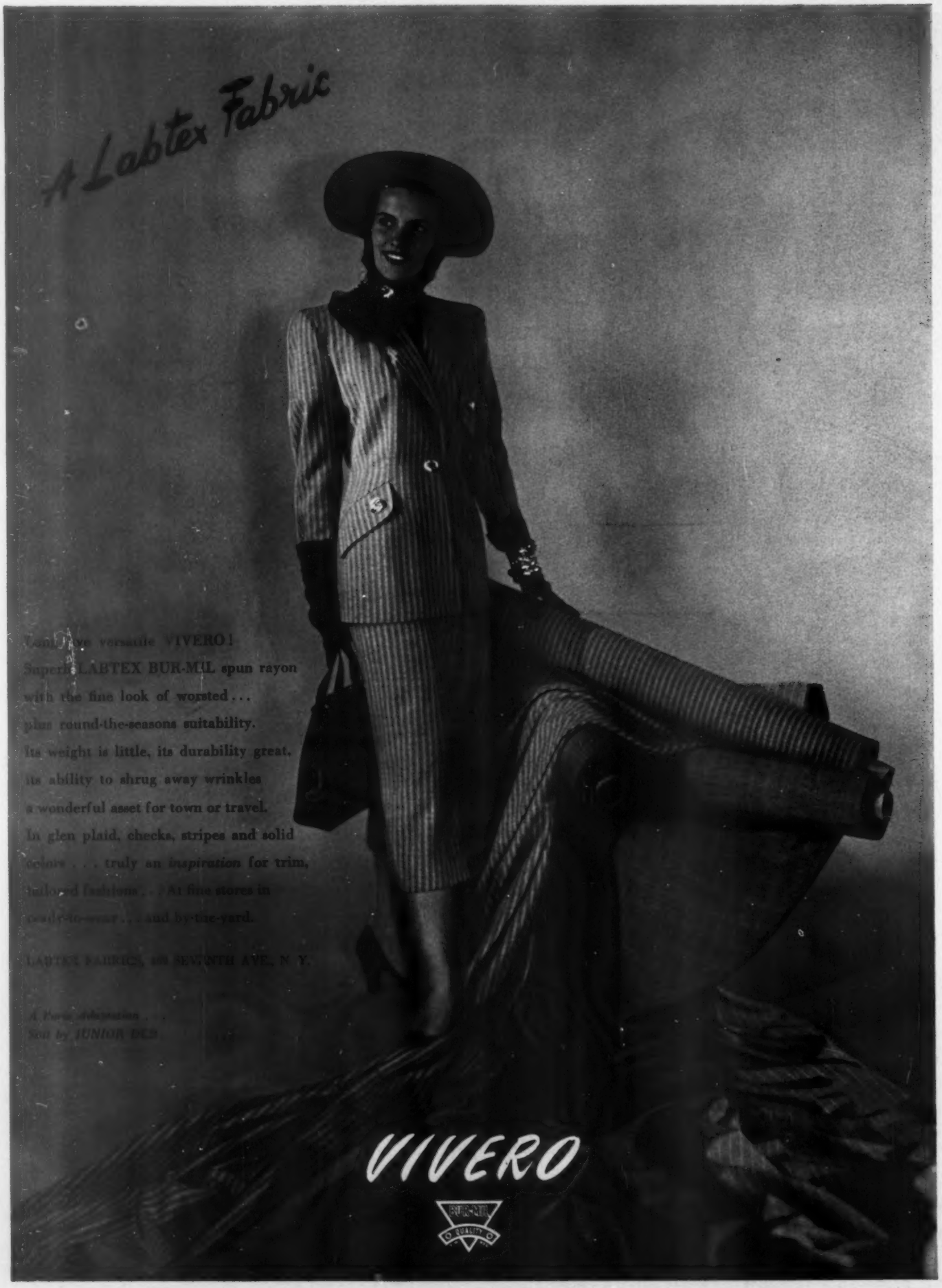

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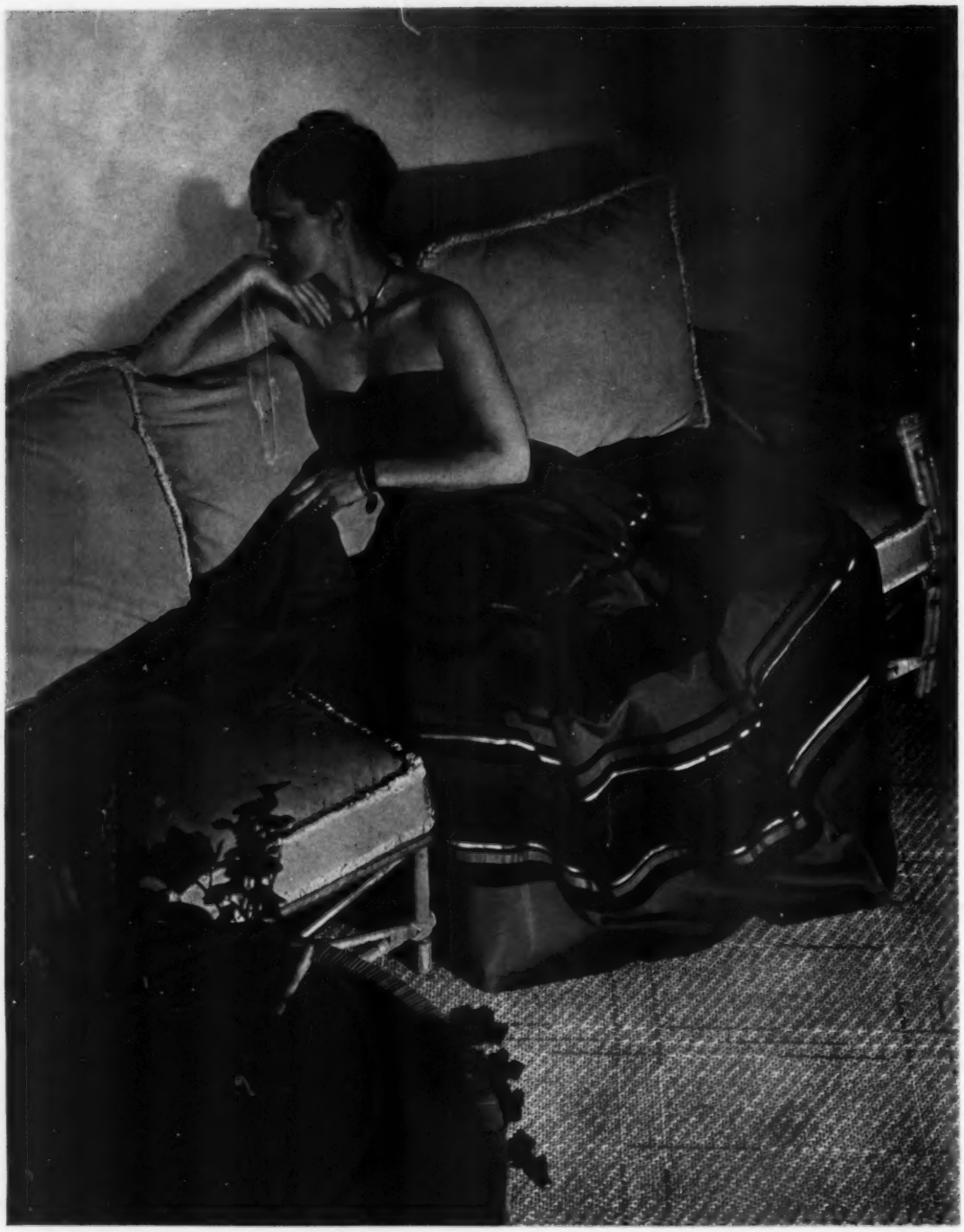

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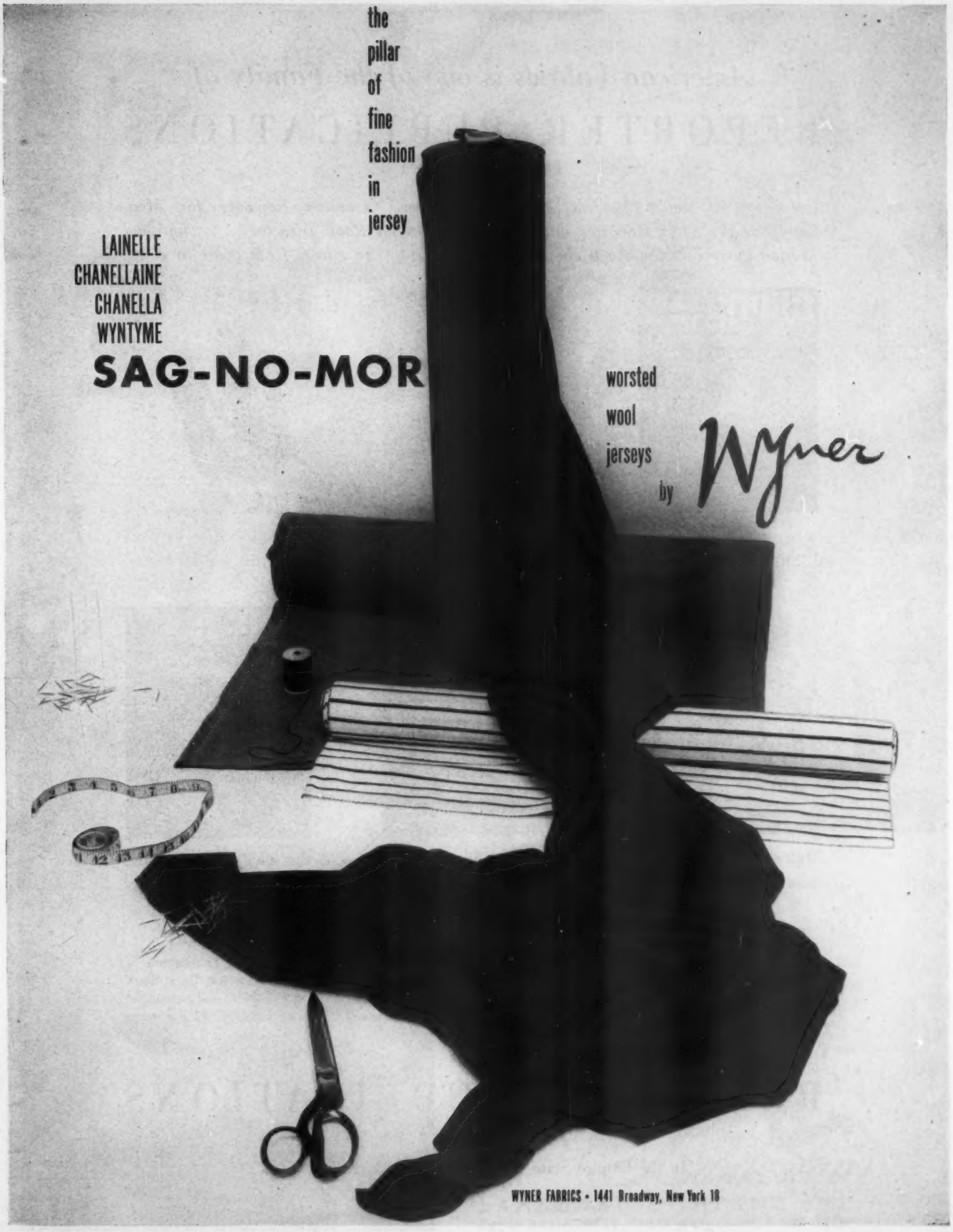
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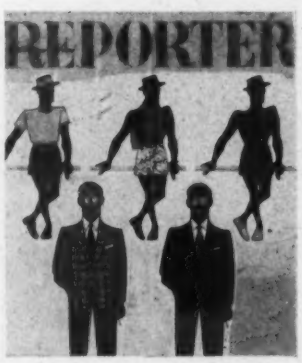

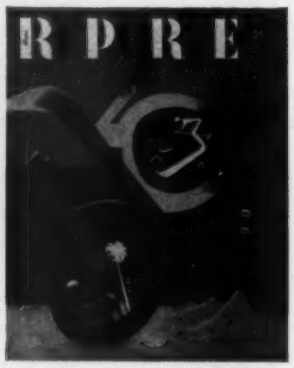

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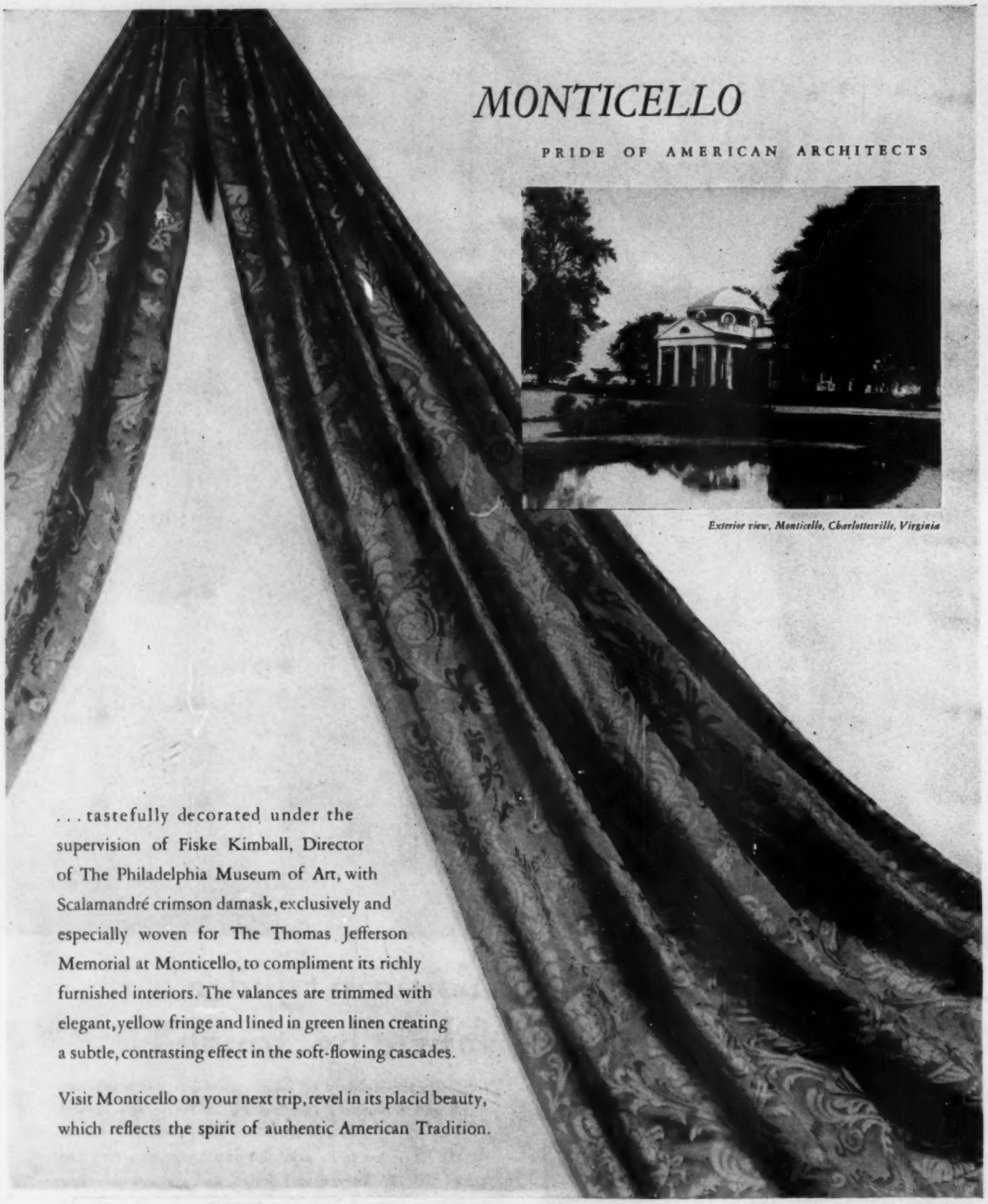

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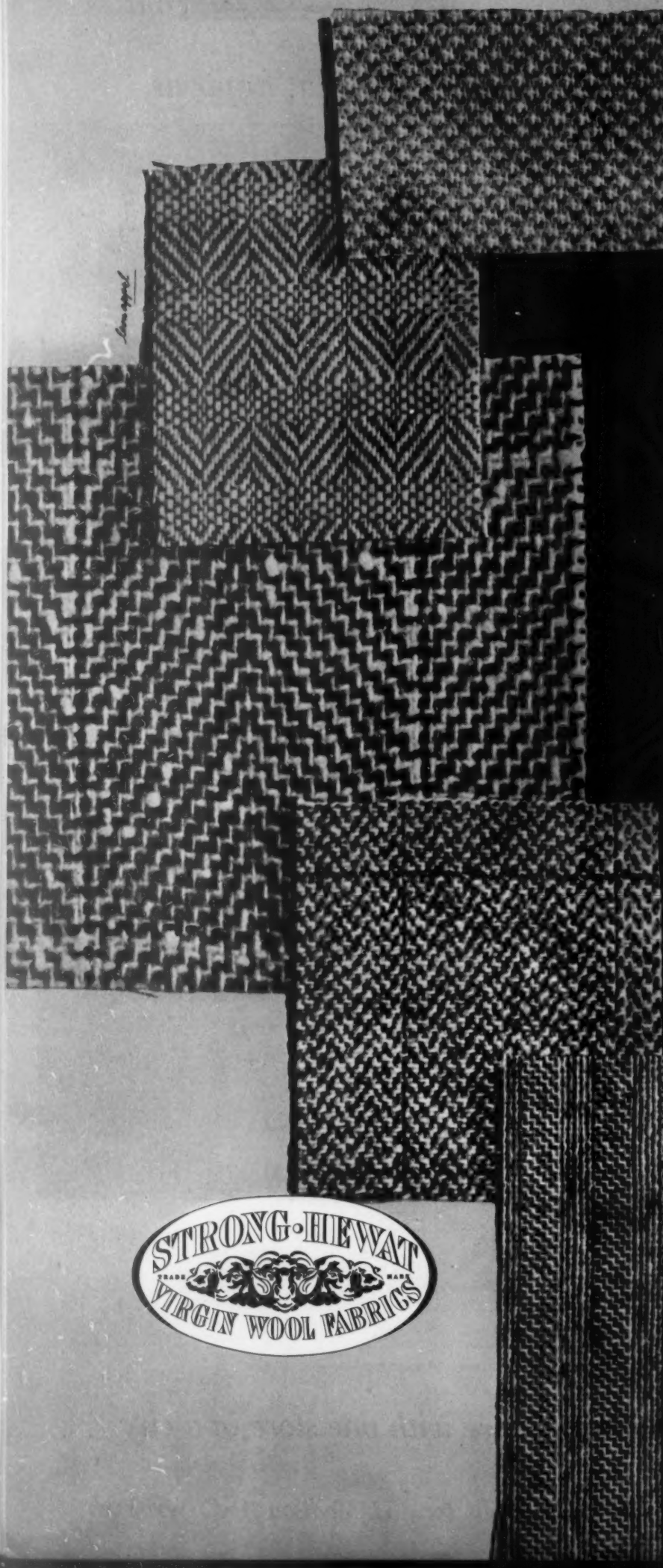

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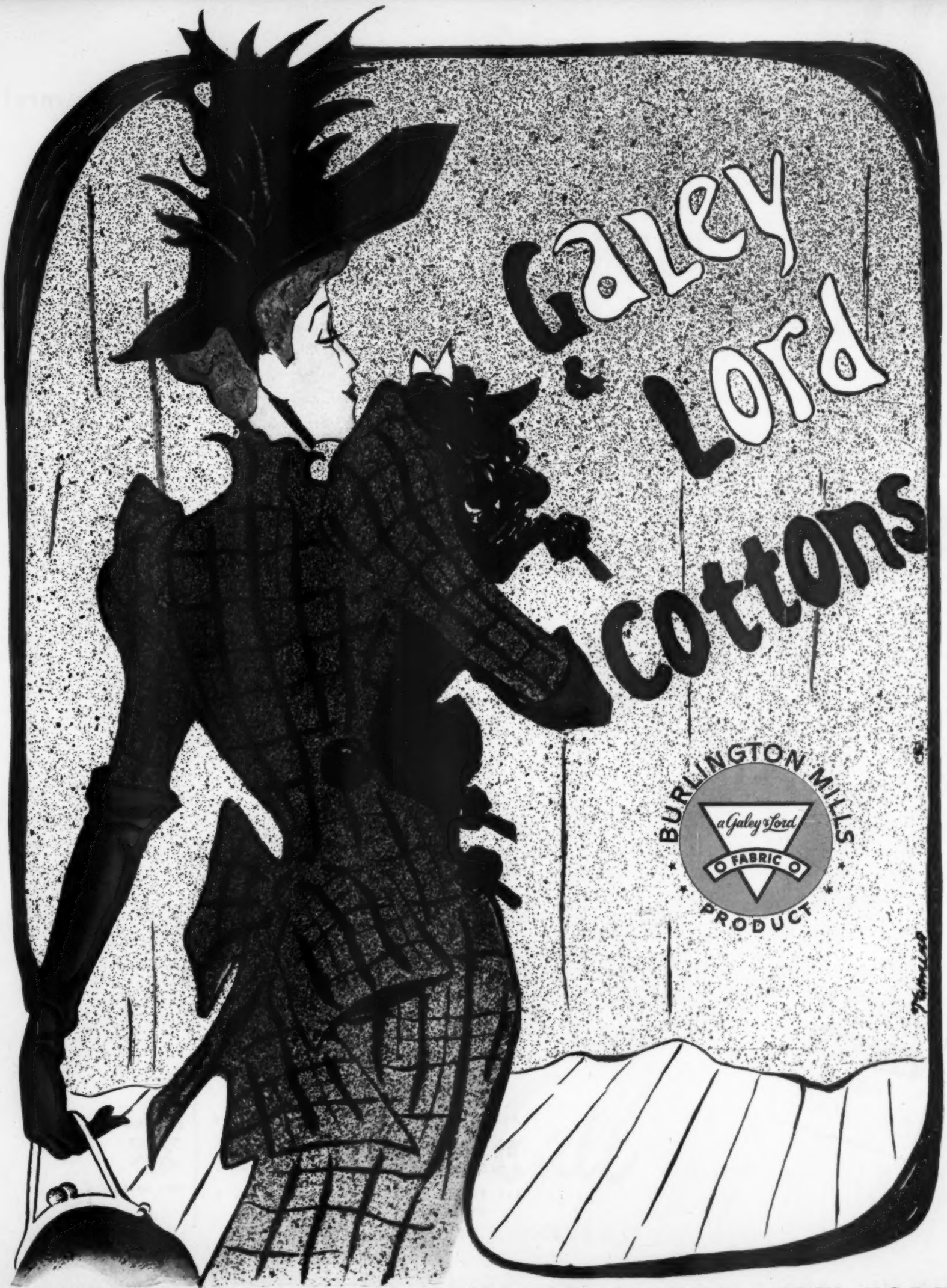

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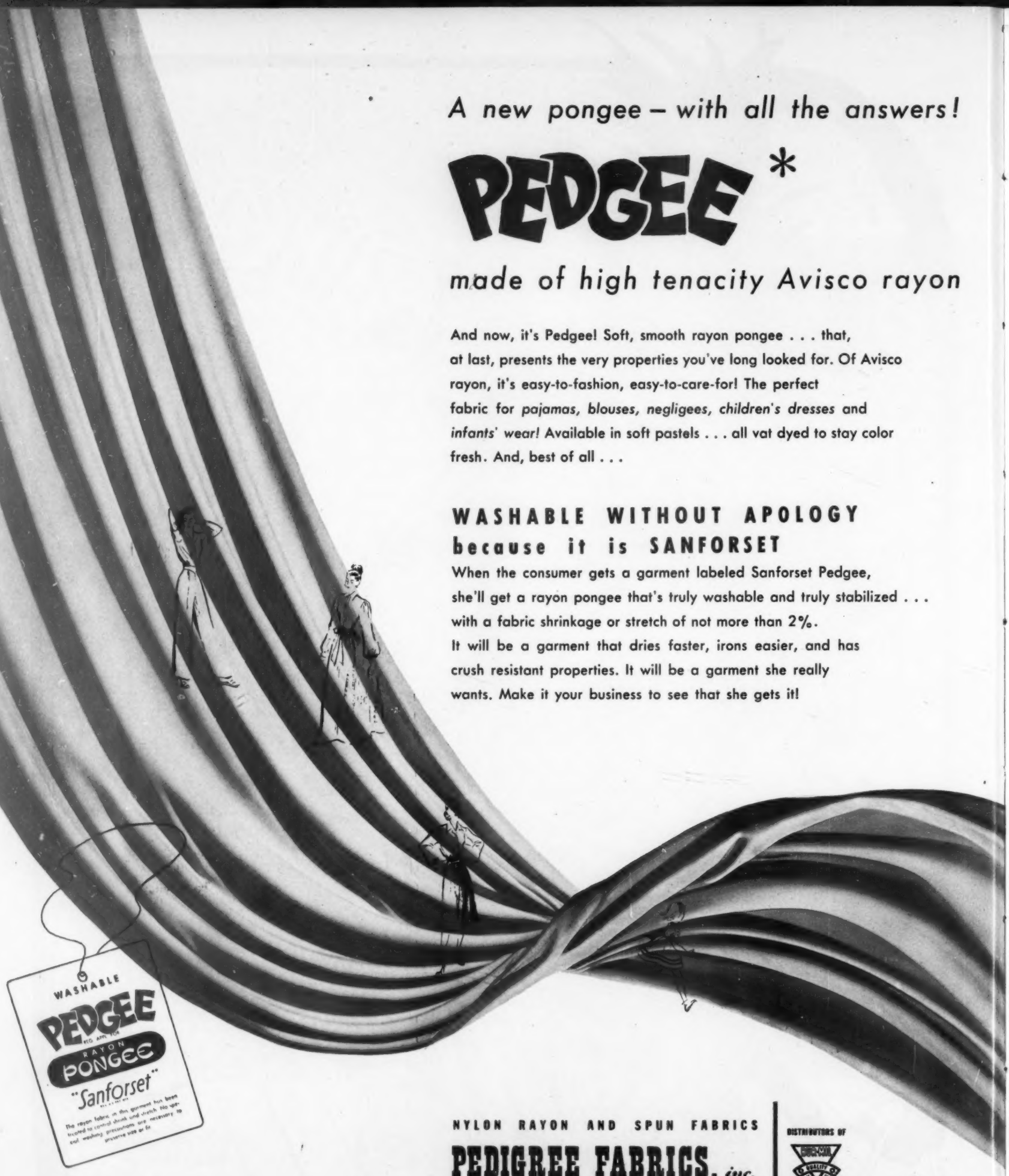
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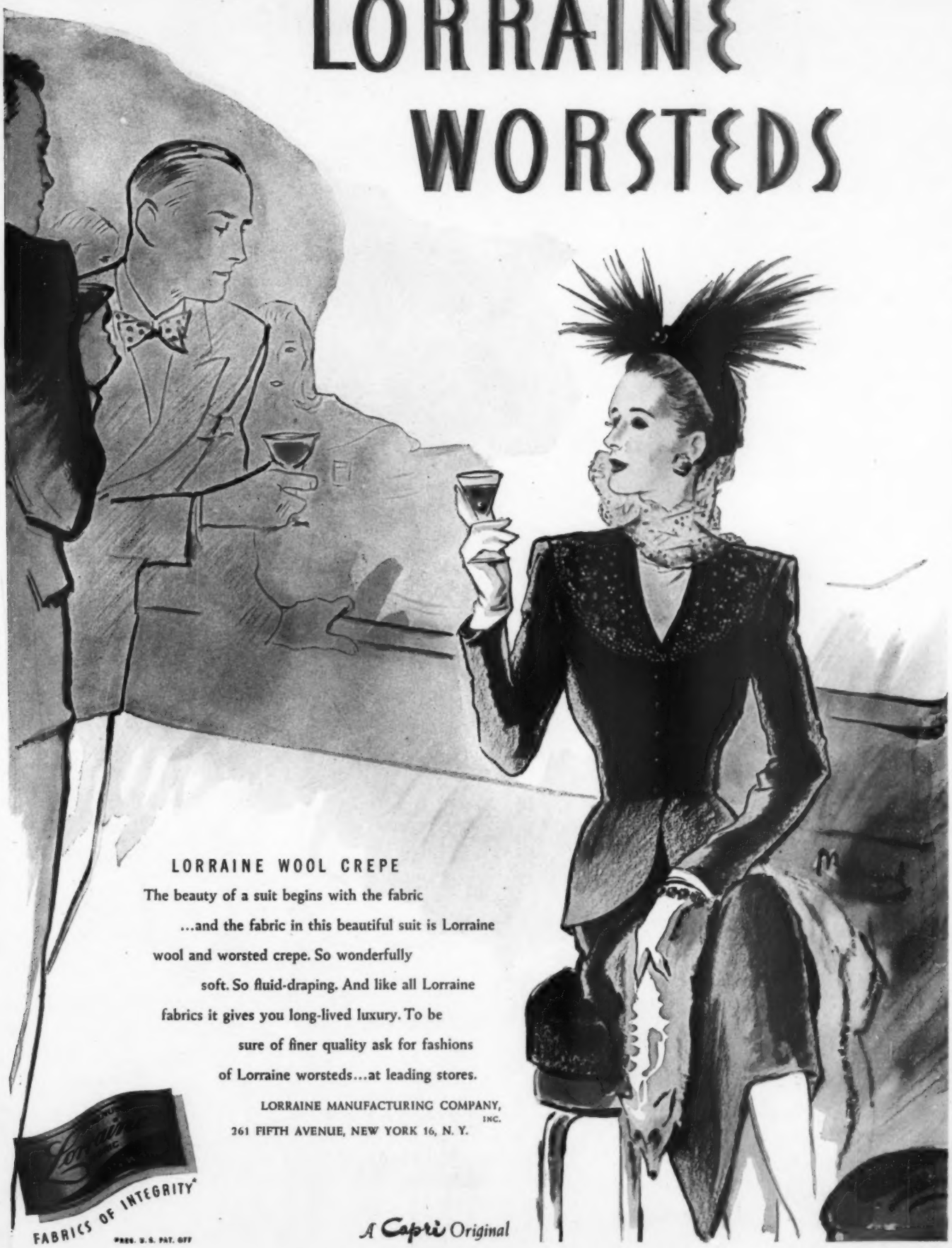

LORRAINE WOOL CREPE

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wool and worsted crepe. So wonderfully
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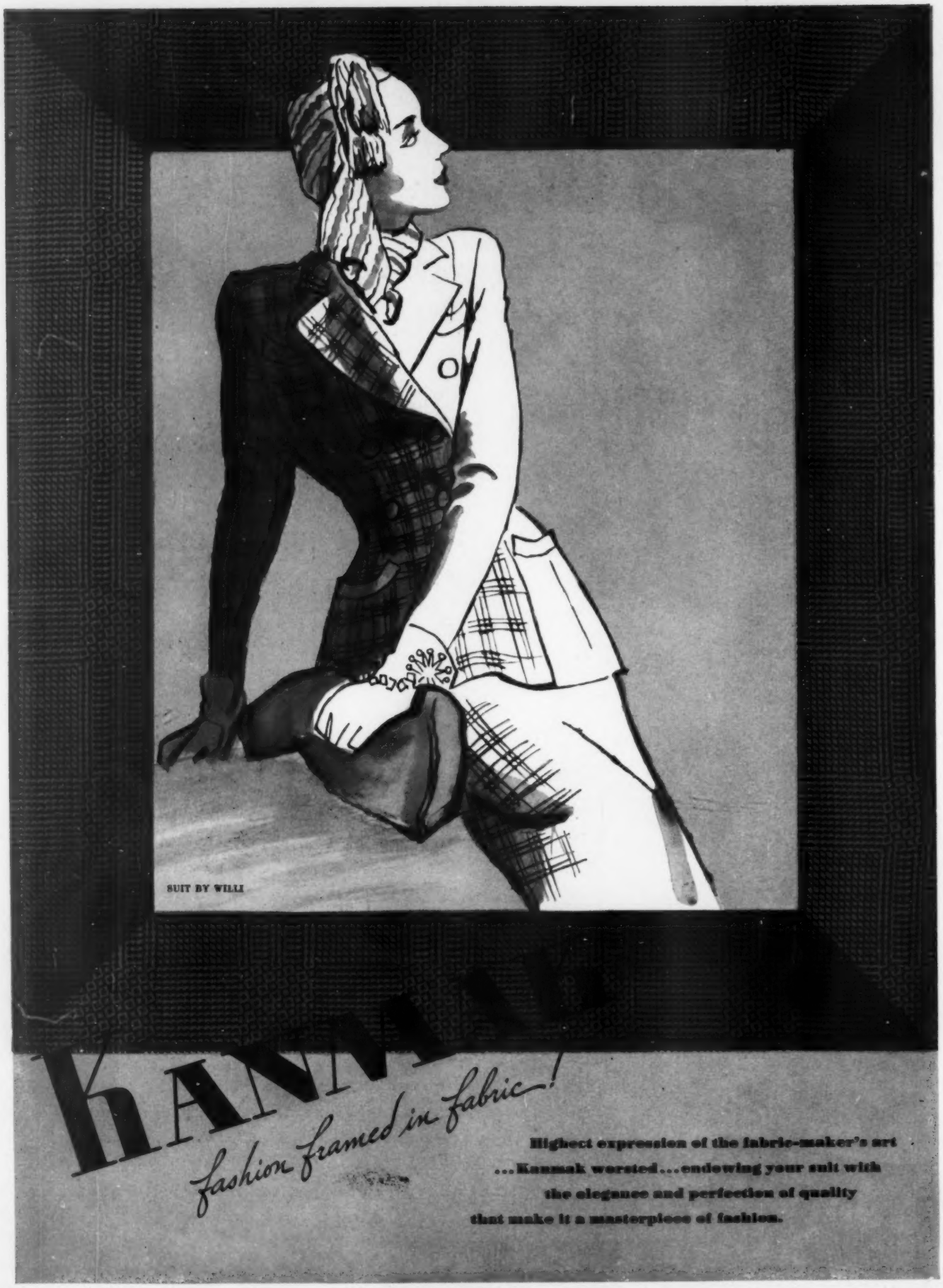
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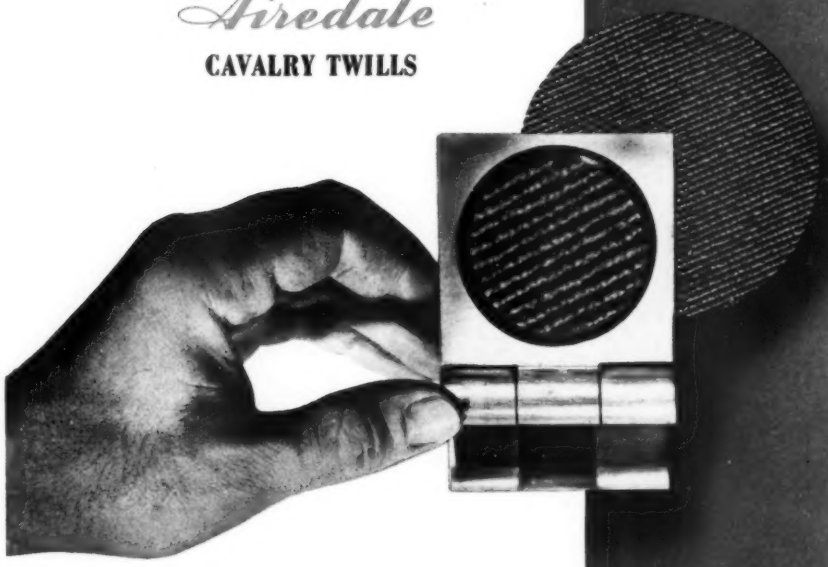

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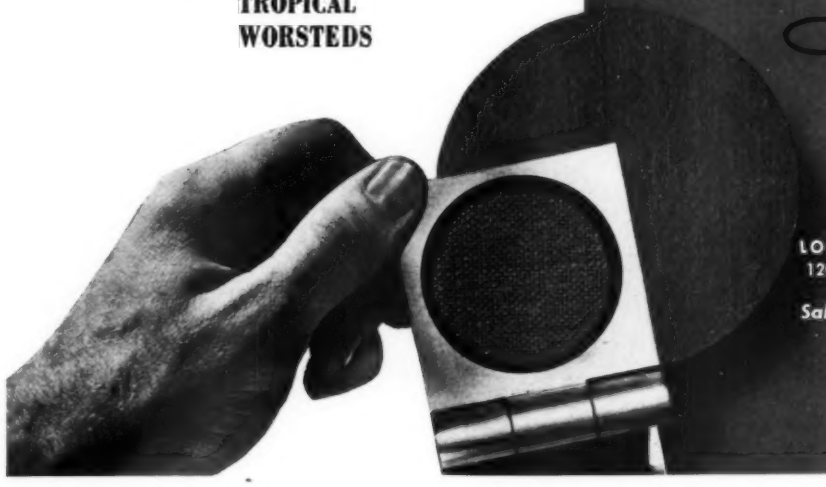

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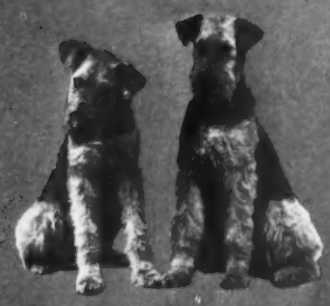

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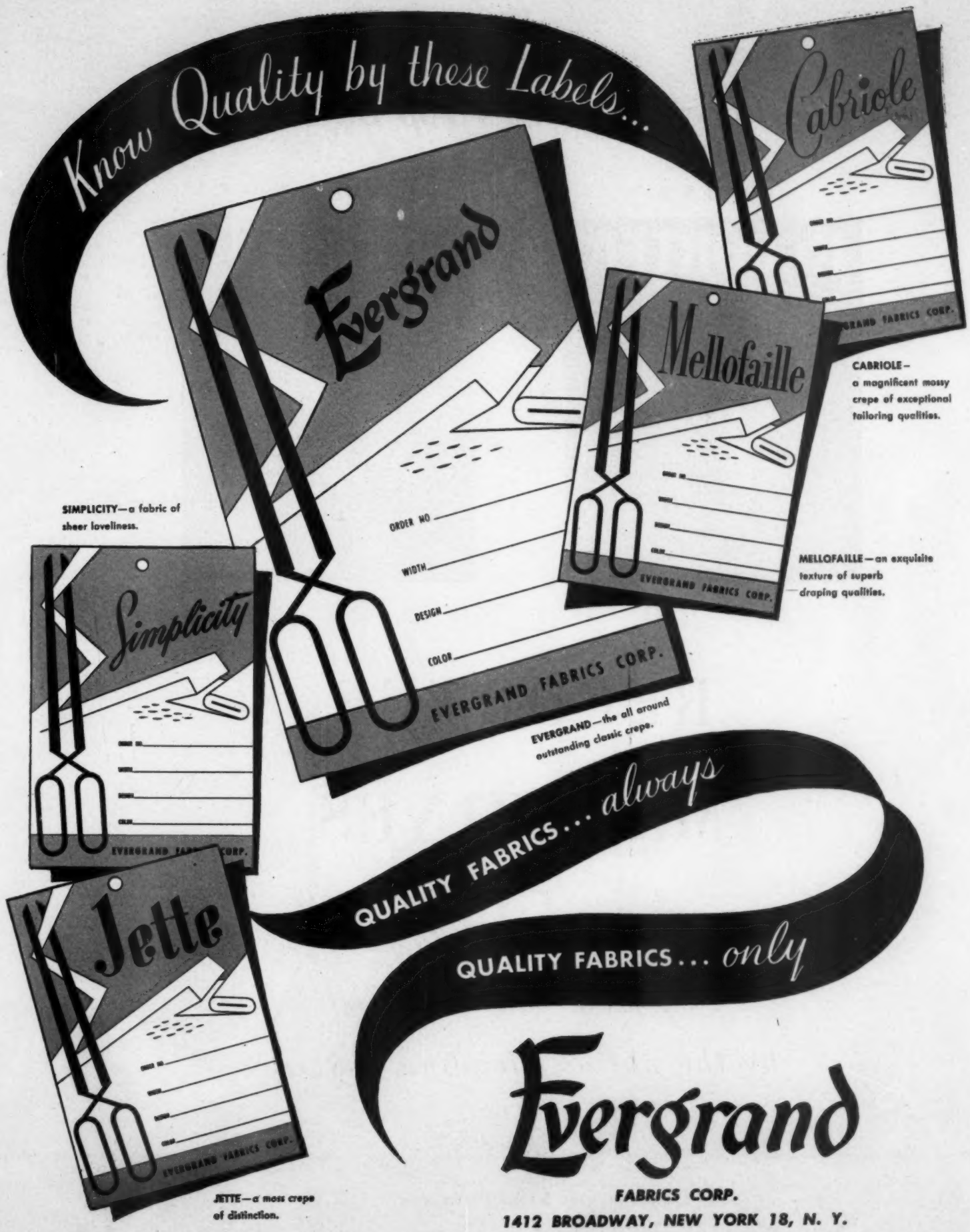

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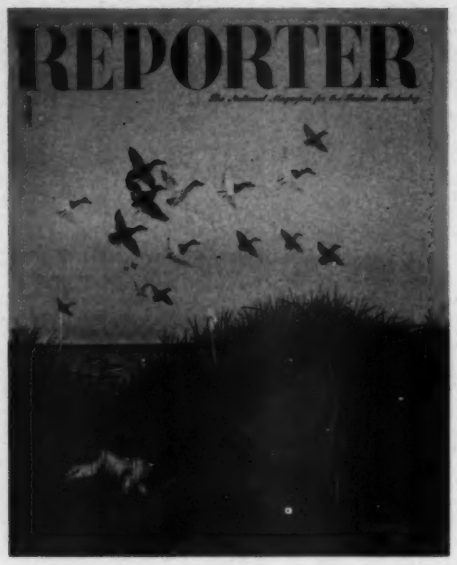

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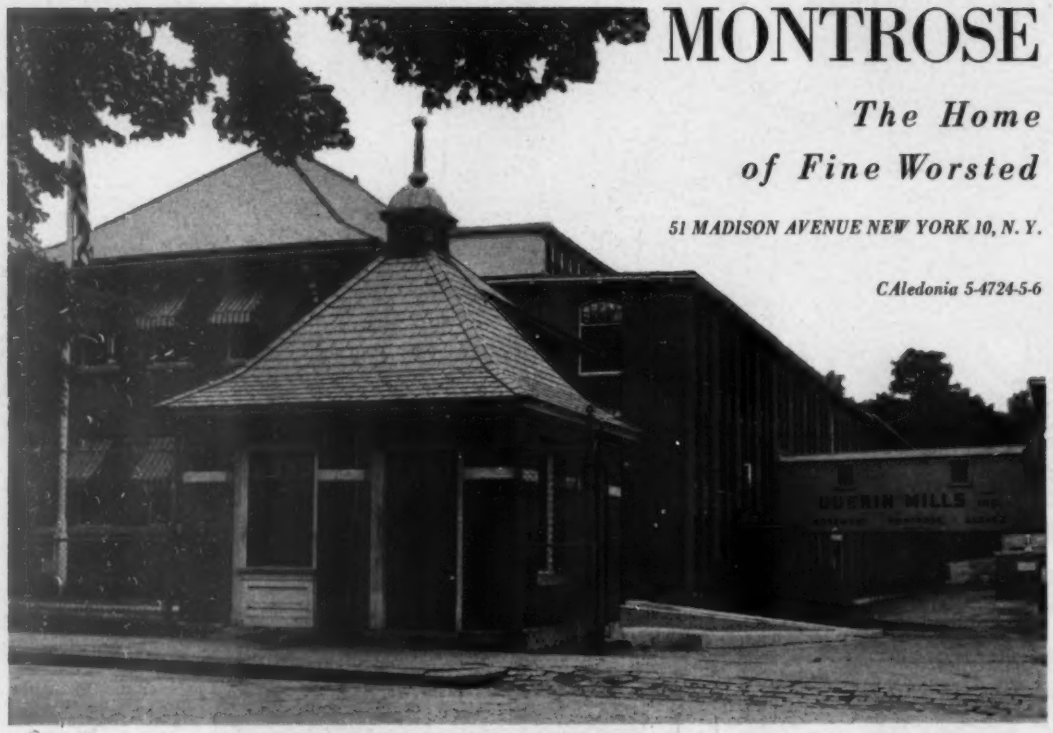

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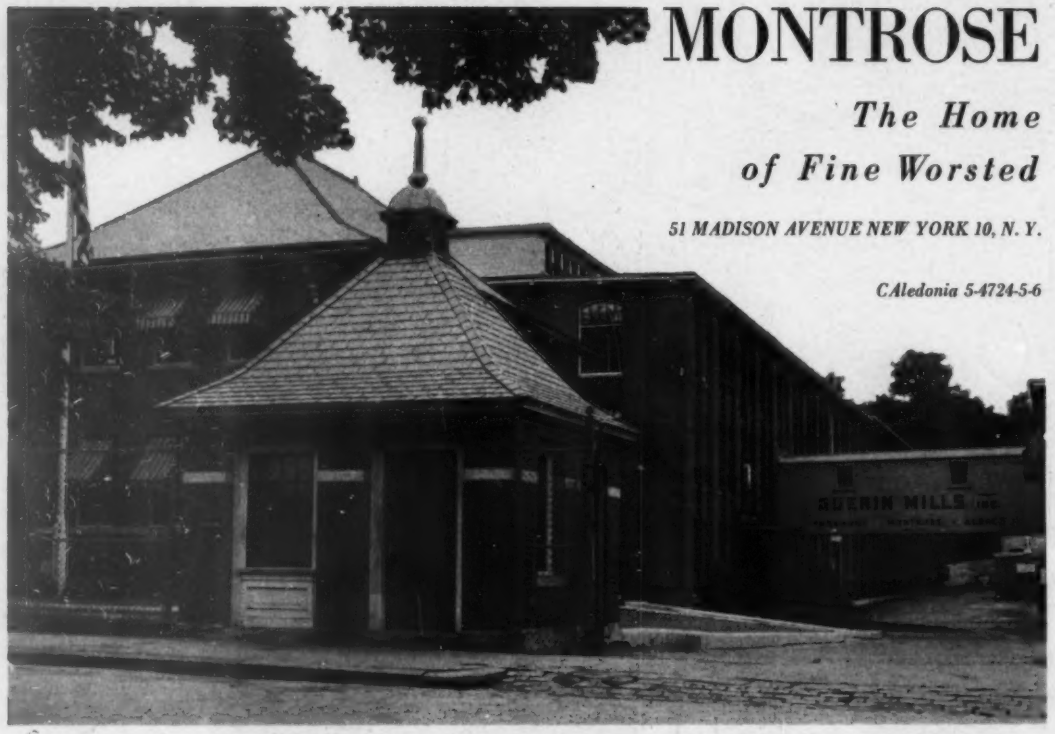

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Superb feeling for color in this detail from "The Journey of the Magi"

The great religions, whether they be those of the Catholic, Protestant or Jew . . . Mohammedan, Buddhist or Hindu, have served to lift men's hearts towards thoughts of God . . . and inevitably the Churches of all denominations have been the repositories of the noblest works of Man.

ART IN THE CHURCH

*By John Goldsmith Phillips**

The exhibition of early Christian and Byzantine art held in the spring of 1947 in the Baltimore Museum created great excitement within the art world, even among many not usually aroused by art exhibitions. For it put into sharp focus an era of our past that had been largely forgotten, except by cloistered experts in the subject, and with crystal clarity showed how intimately the arts of Europe have been connected with religion.

Art and Religion Through the Ages

True enough, throughout the whole world art and religion have always walked hand in hand. Wherever you look this is so. In ancient Egypt, the vast temple at Karnak employs the arts to reveal a god conceived in terms of materialism, or a mundane king who claimed to be immortal. The awesome Buddhist cave temple of Lung-Mên in the Chinese province of Honan tells us of the use of art in a powerful Eastern religion. And the Parthenon at Athens—erected in honor of the goddess Athena—was perhaps the most complete expression of the Greek spirit. The monotheistic Jews, because of the very austerity of their worship of Jehovah, used the arts only to a limited extent to serve their noble religion. Yet we read that Solomon's Temple was a wondrous edifice, the construction of which demanded the supreme artistry of man.

Museums of the Times

But this recent exhibition in Baltimore suggested that there was a new, extraordinary quality about the art produced for the churches of the Western world, one which lay in the very nature of Christian belief. The doctrine that Christ was true God and true Man gave art a full measure of humanity. The early Christians believed, as those who follow the Bishop of Rome still believe, that their churches were not merely monumented to their God, but were the House of God, a God whose actual body and blood were every day miraculously recreated on the altar table from the bread and wine of ordinary life. So for these faithful, the Church was no mere meeting place; it was a throne room for the Divine presence, and artists worked to make it so.

Christianity has ever been a proselytizing religion, and its tenets are often complicated and need to be simplified so that all may more readily understand them. Artists therefore were early enlisted to fortify Christians in their faith, and to direct their thoughts and emotions into the realm of the divinely good. It is interesting to note that as long as faith was strong in the hearts of men, the arts were a flourishing concern. A vital Christianity and a vital Christian art went together. Thus the story of the greater portion of all European art is wrapped up in the story of the church. We are apt to forget that in the past the churches were the art museums of their day, and that even now they are among the greatest repositories of European art.

Early Conceptions

When in the sixteenth century the founder of the Jesuit order, Ignatius Loyola, demanded approval of the "magnificence of the construction and the ornaments of churches, and the holy images which we justly honor because of the things they represent," he was giving voice to a precept as old as Christianity. And the Baltimore exhibition shows how effectively all the arts were used even in early Christian times. The painter, the sculptor (who often worked in ivory), the goldsmith, the silversmith, the enameler, the weaver, and the other artisans were all at work, and within the limits of his material each was striving as best he could to enoble the temple of the living God.

* * * * *

In a brief article such as this it is impossible to single out every one of the arts used by the church throughout its long history. We can touch on only a few, and sketchily at that. So we turn first to the fabulous domed church of St. Sophia (now the mosque of Istanbul), built in the VI century during the reign of Justinian. Its pristine glory and magnificence can be but vaguely imagined by the modern mind, for in this age of synthetics, authentic richness is a thing of the past, discoverable only in museums. Most of

(*please turn page*)

*Associate Curator of Renaissance and Modern Art of the Metropolitan Museum.

Art in the Churches (continued)

St. Sophia's furnishings and decorations have long since disappeared, but within the past decade a number of the mosaics have been discovered under layers of Moslem plaster, and their richness has astonished a jaded world. The grandeur of Byzantine church construction was mirrored in all the arts used within the church.

Chasuble back: embroidered in opus Anglicanum; The Enthronement, The Adoration of the Magi, the Annunciation. Red velvet, metal thread and silks. English, first third of 14th century. The enlarged detail of above chasuble, The Enthronement, is shown on opposite page.

Consider one of them: weaving. Constantinople was long famous for its silks, particularly for those dyed the imperial purple, an example of which is the famed Elephant silk woven in an Imperial Byzantine manufactory, and now preserved in the shrine of the Emperor Charlemagne at the Cathedral of Aachen. It is of interest to note in passing that in late Byzantine times Rabbi Benjamin of Tudela, who traveled throughout the region, reported that there were two thousand five hundred Jews in the Pera quarter of Constantinople, many of whom were manufacturers of silk cloth, and that the two thousand Jews in the Byzantine city of Thebes were "the most eminent manufacturers of silk and purple cloth in all Greece." The fabrics which such skilled craftsmen produced were sent all over Europe, and were numbered among the most costly presents that one could bestow upon a great ecclesiastic.

* * *

During the later Middle Ages, Christianity became an ever greater force in the lives of the people. In Romanesque and Gothic periods, when Christianity was enjoying some of its supreme moments, the arts experienced a singular flowering, with the cathedrals their most felicitous expression. The great cathedrals

(*Please turn to page VI*)

Above, Hebrew Torah curtain; top, angel detail from the Nativity; below, Adoration of the Shepherd (Institute of Chicago).

Stained glass window from Chartres.

Art in the Churches (continued)

which arose in every large town were the focus of all urban life, dominating their surroundings by their very size and majesty. It is difficult to picture these great edifices in their mediaeval setting, for their cold, gray stone is now often lost sight of amid the crush of modern structures. But once they stood out sharply, and they were then brilliantly painted on the exterior as well as within. Their great towers pointed heavenwards with a mystical insistence for all to see; on feast days their bells sounded an angelic choir for all to hear; and their portals, richly carved with representations of sacred themes and personages, welcomed all within to what was surely a breath-taking sight.

* * *

On entering, who could remain unmoved by the flaming, jewel-like glass filling an immensity of arched windows? And nowhere was mediaeval stained glass more thrillingly seen than in the windows of the Cathedral of Chartres upon whose vitreous surfaces — fortunately preserved for us — were depicted the whole story of Christian belief, a story retold elsewhere within the church in paintings, wool tapestries, and statuary. In every cathedral woodcarvers devoted their talents to the fabrication of choir stalls and various architectural elements. Still other artists so labored that everything connected with the high altar, the center of worship, was of the costliest material and finest workmanship. There were candlesticks, crucifixes, and chalices on which goldsmiths, and enamelers lavished their rich skill; missals illustrated by masterpieces in illumination; and cloths and vestments of the most sumptuous materials. Among these vestments high honor goes to the type know as Opus Anglicanum, made by English needleworkers and so skillfully embroidered in the arduous split-stitch that they were eagerly sought after all over the continent. And it is expressive of the Middle Ages that with the church successfully ministering to the populace, church art was the popular art. There was a profound connection between man and art which no longer exists. There were then no Fine Arts for fine people — only art for the people.

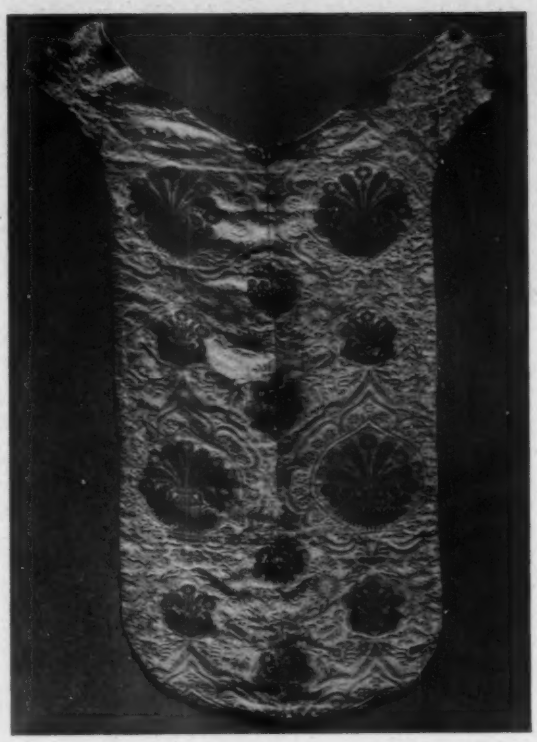
Effects of Renaissance and the Reformation

With the Renaissance, which followed the Middle Ages, came the rise of a capitalistic world and of a new materialistic outlook. And with it too came the Reformation which split the church with cataclysmic force. The many new-formed religions tended to restrict the use of art; on theological grounds Protestants were opposed to the former widespread use of images; and as their ritual was far less involved than the Catholic, there was less need of the products of many of the artists and craftsmen. Indeed with their inclination to turn to the books of the Old Testament, the Protestants seem to have emulated the Jews in the avoidance of elaborate church decoration.

But among those who clung to the Roman communion there was no lessening of the use of the arts. As an answer to schism, the

(*Please turn page*)

In contrast with the Protestant and Jewish religions, which called for plain vestments to be worn by its ministers and rabbis, ceremonial materials and chasubles were worn by the Catholic priests in the great cathedrals of the middle ages: At left, orphreys embroidered in gold, ground of embroidered velvet, Italian, 16th century. The back of this chasuble is shown on following page. Center, dolmatic: green ferronnerie velvet (plain cut velvet with voided pattern), with embroidered apparels. Spanish, first half of 16th century. Right, chasuble: red velvet with embroidered orphreys. Italian 15th-16th century.



. . . church cloth vestments were the richest materials.

In the synagogue adornment was reserved largely for the altar. Above, is torah cloth embroidered in gold and silver applique on red velvet brocade, 1772-1773. Note the double-headed eagle, the coat of arms of the Holy Roman Empire indicating the imperial protectorate for the Jews of the community. Note seven branched candlestick.

Above: Medallion, silk with gold threads. Courtesy Metropolitan Museum. At left: Synagogue Torah cloth. Courtesy the Jewish Forum.

Back of cope shown on preceding page.

Chinese silk ceremonial robes, courtesy Metropolitan Museum.

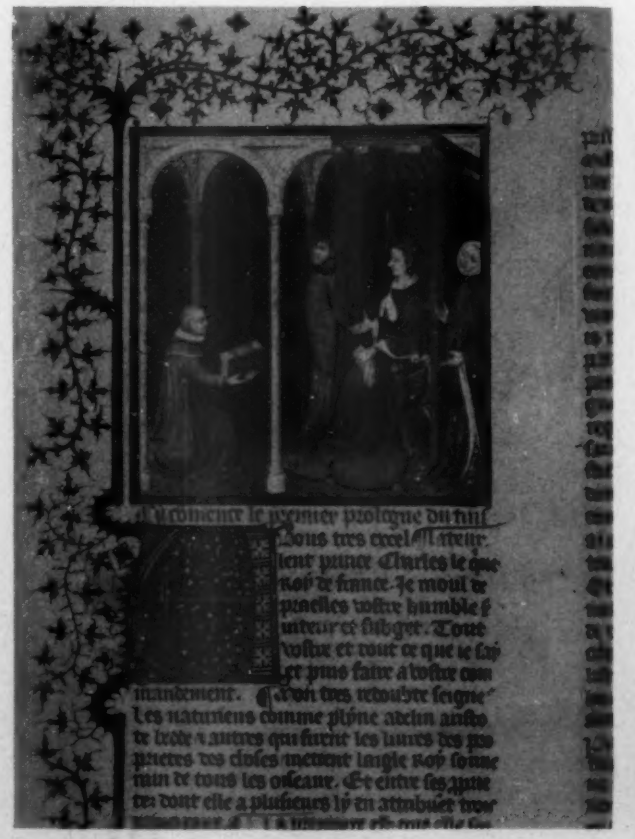
Art in the Church (*continued*)

Catholics closed their battered ranks and challenged the secessionists by positive statements of their belief. The art of the resulting Counter-Reformation was as vigorous as the policy of the church, and its most characteristic expressions were found, logically enough, at the fountain-head — Rome.

The Gesù, the principal church of the Jesuits who had proved so effective in carrying through the policies of the Counter-Reformation, is perhaps the most famous of the Roman baroque churches. It is constructed in the grand Roman manner in a style based on classical orders — Vignola was the architect — and from the exterior is a thing of logic and power if not of intimate charm. Its character, however, is felt most keenly within, where painting, sculpture and all the arts join in a swelling symphony in celebration of the triumph of Catholic dogma and of the Jesuit order. The key is one of emotional fervor. As is shown even by the altar furnishings and the vestments, artists attempted to achieve their effects overpoweringly. And to be counted successful, the effects had to be immediately obvious. The Ignatius altar of the Gesù which contains the body of the founder of the order, is as splendid

(*Please turn page*)

Panels from a 17th century cope



Decorative page for Middle-Ages manuscript

Superb Spanish ceremonial robe, brocaded velvet trimmed with metal galloon.

A modern feeling of elegance and design characterizes this Angel of Mohammed

This Persian Prayer niche is a veritable tracery of design in mosaics faience

Art in the Church (*continued*)

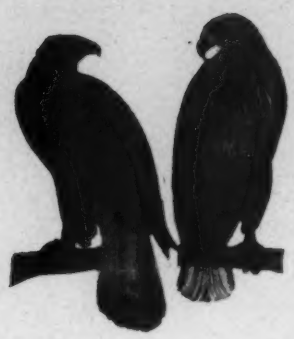
as human effort could make it, and is built of a number of the costliest materials: colored marbles, bronzes, and a profusion of lapis lazuli. In viewing this most characteristic achievement of an age, you may feel that if the Jesuits were religion on the march, the Roman baroque was art on the march. The divine afflatus of the Counter-Reformation lasted a comparatively short span, but its baroque art has been replaced by nothing nearly so vital.

In the past century churches and church decoration have eclectically followed former styles, and sometimes, if not generally, the effect is most rewarding. In New York we have the early XIX century gothic of Trinity Church, the late XIX century gothic of St. Patrick's, and the XX century gothic of St. John the Divine. For reasons of their own the Brick Presbyterian Church is Georgian; St. Ignatius Loyola, Baroque; and the Temple Emanu-El is Romanesque. The various arts used to furnish their interiors naturally follow the styles of the exteriors.

In more recent years, however, a new feeling has grown that no church style can better serve its purpose than a purely modern one. And if the past that we have so briefly sketched in this resume can be taken as an example, there is much to support this point of view. So many fine and original churches have been recently developed along modern lines both in Europe and in America, that we can look forward to a more effective church art that will demand the best efforts of all the artists and will be full of meaning to the worshippers. Of course one prescription for an effective church art is a strong and general religious belief, and that comes not from the artists but from the hearts of the people. THE END

Photo Below: left to right, Chalice veil-silver brocaded leaf green rep; Cope (back) of brocade with embroidered Orphrey . . . Persian; Cope, satin velvet with silk and metal threads . . . Italian; Chalice cover—linen canvas silver and silk.

On Opposite Page—Magnificent seated Buddah (photos courtesy of Metropolitan Museum of Art)



HOW TO TELL THE FACE FROM THE BACK

American Fabrics describes ten common types of fabrics, and how experts distinguish between the face and the back

Knowing how to distinguish between the face and the back of a fabric is not as obvious as it appears because weaving today is so complex that the difference between the face and the back is often difficult to ascertain.

It is important for the difference to be known if certain faults in the final garment are to be avoided. Unless the face of a fabric is used throughout, for example, unsightly variations in the ultimate product are almost inevitable. Manufacturers have discovered to their sorrow that this basic knowledge in handling fabric is sometimes absent in their employees. They've found diverse color shades in a supposedly one-color garment; or, if the fabric carries a colored design motif, there occurs quite often an unanticipated break in its continuity.

Not only are color and design variations the result of accidentally mixing the face and the back. The direction of designs might also be affected. Stripes, plaids, checks and floral effects with a regular repeat will not be properly aligned or matched if the face and the back are used indiscriminately in the manufacture of the final product.

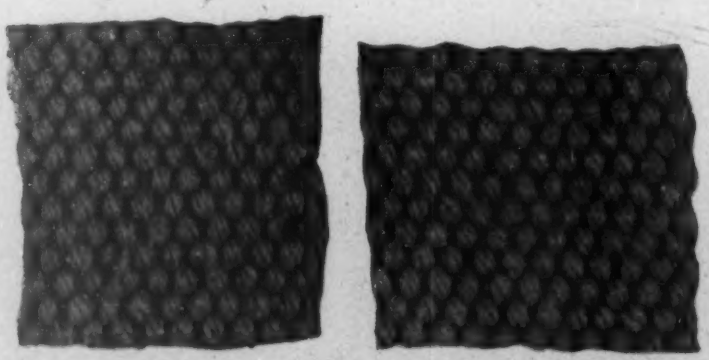
In cases where a particular surface effect or texture is desired, the face must be differentiated from the back to avoid even more serious mistakes. In such fabrics (one with a lustrous satin face and dull back, for example) the failure to distinguish between the two would be most marked in the final garment. As it is, the lustrous satin face is used as the body of the garment while the dull back may serve for cuffs, collars, lapels and trimming.

Raised designs on the face of a fabric require careful handling. Sprigged dimity, dotted Swiss and flock dotted fabrics should have the raised effect on the face of the goods at all times. Failure to do this means a complete break in the appearance of the fabric.

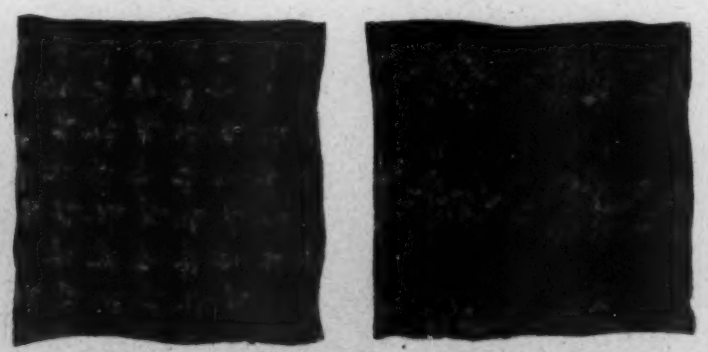
Twill fabric should have the twill running in the correct direction in all parts of the garment. A suit made of a right-hand twill serge or gabardine would be spoiled if the sleeve, for example, were made inside out and had a left-hand twill effect used inadvertantly for the face.

Knots, loops or other blemishes, press marks, weaving and dyeing flaws add their share of problems in handling fabric. Unless it were possible to remove these flaws altogether, the only solution for them would be to bring them to the back of the goods so that they would not show on the face and possible spoil the surface effect. This is possible of course only when the fabric concerned lends itself to such treatment.

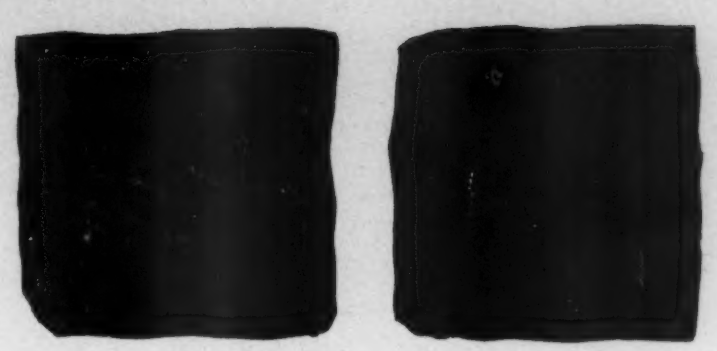
These are makeshift efforts at best. Manufacturers would do well to stress the importance of distinguishing the face from the back of a fabric. This is the more fundamental approach. Here, on these pages, is a brief reminder of how it's done with ten of our most common types of fabrics.



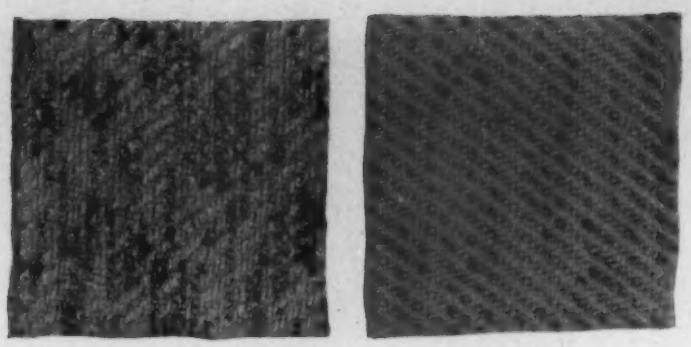
1. Reversible Fabrics . . . There is no difference between the face and the back of these fabrics. Examples include canvas, duck, burlap, mail bagging. Handkerchief linen is somewhat of an exception because the back of the fabric is hemmed or stitched.



2. Plaid Fabrics . . . With the exception of plaid-back overcoatings shown above, plaids are always on the face of the material. In this category are found dress silks and rayons, umbrella fabrics, overplaids made with double cloth construction, ribbon and novelty fabrics.

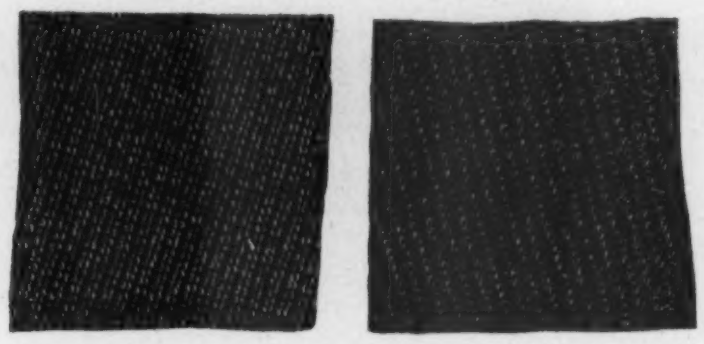


3. Face-Finished Fabrics . . . The face on these goods is the more attractive side of the material. Beaver, bolivia, bouclé, broadcloth in the woolen trade, camel-hair fabrics, chinchilla, kersey, melton, montagnac, Saxony, tree-bark, Witney fabric, Worumbo and zibeline are examples.

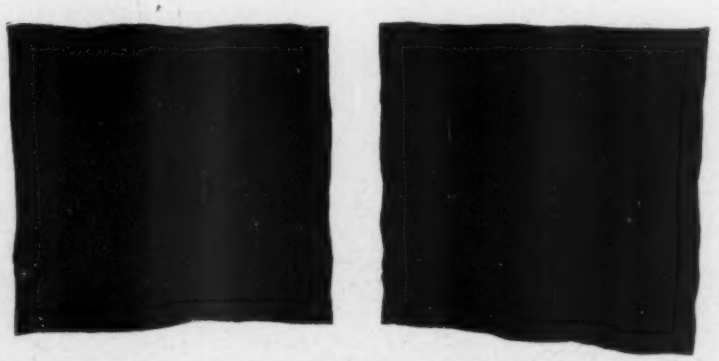


7. Fancy Yarn Decorated Fabrics . . . Such decorations are always shown to advantage on the fabric face. Nubs, bright spots of color from the use of novelty yarn, and laminated yarns are examples. Fancy effects are common in types of suiting, dressgoods, coating, drapery and shirting.

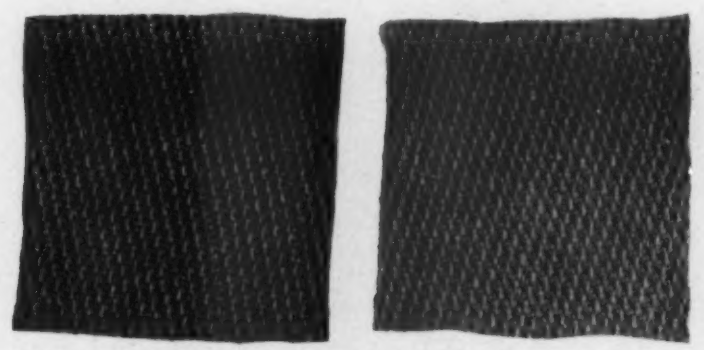
4. One-Face Fabrics . . . Only one side of such fabrics is suitable for the face of the fabric. Long floats, knots and extra yarn stitching on the back make these sides unsuitable for use on the face of the goods.



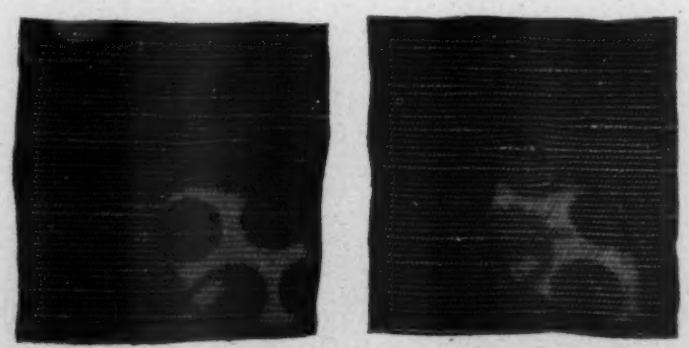
8. Right Hand Twill Cloth . . . The face is that side of the fabric which has the lines running from the lower left-hand corner to the upper right-hand corner. About 80% of all twills are right hand.



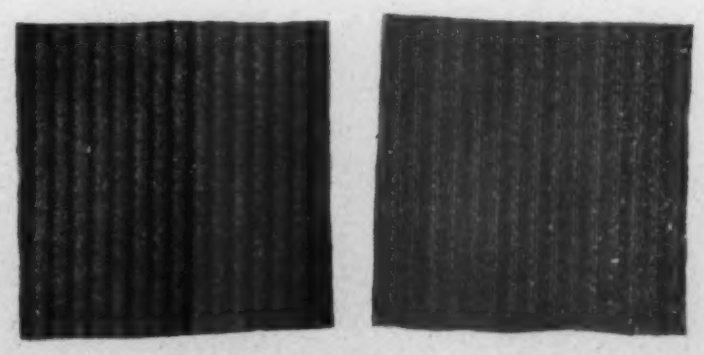
5. Double-Faced Silks . . . Either side may be used as the face of such material, although the lustrous side of the material is the real face. In many garments, the satin side of the crepe back satin or rib-back satin, for example, is the face while the trimming is the darker side.



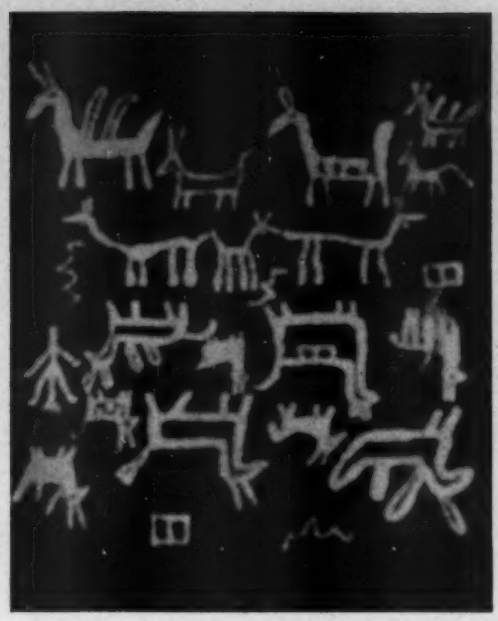
9. Left Hand Twill Cloth . . . The face is that side of the fabric which has the diagonal lines running from the upper left-hand corner to the lower right-hand corner. Among left hand twill fabrics are denim, drill, jean and middy cloth, galatea, nurses' uniform cloth and some British worsteds.



6. Printed Materials . . . With the exception of duplex or registered prints, the face is that side with the clearer pattern effect. Cretonne, shirting, prints of many types, chintz, dressgoods and decorative fabrics are examples.



10. Ribbed or Corded Fabrics . . . The face is the more pronounced side of the cloth in most instances. Fabrics of this type include Bedford cord, bengaline, corduroy, tweeduroy, piqué, ribbon, Russian cord and shirting.



Decor by Fisch will often take on a playful note as when she reproduces native fragment which was originally used on tapa cloth on lampshades, plant-holders and rugs.

What is it about the design motifs of early Latin American races that has such potent appeal to the sophisticates in modern America? Why is it that the rugs, the pottery, the wall paintings, the fabrics which decorated the homes of so-called primitive agricultural peoples assume such richness and beauty in the homes of far more complicated humans living in a mechanized age?

No one reason will obviously explain it. But among the reasons which make sense to us is the fact that these design motifs sprang from the day-to-day living of the people who created them . . . were rooted securely in a stable culture built on the dignity of work, where each man had his place and knew his worth.

The designs are simple. And being both simple and strong they have tremendous appeal to the intellectual who seeks roots and security in the shifting quicksands of our modern civilization.

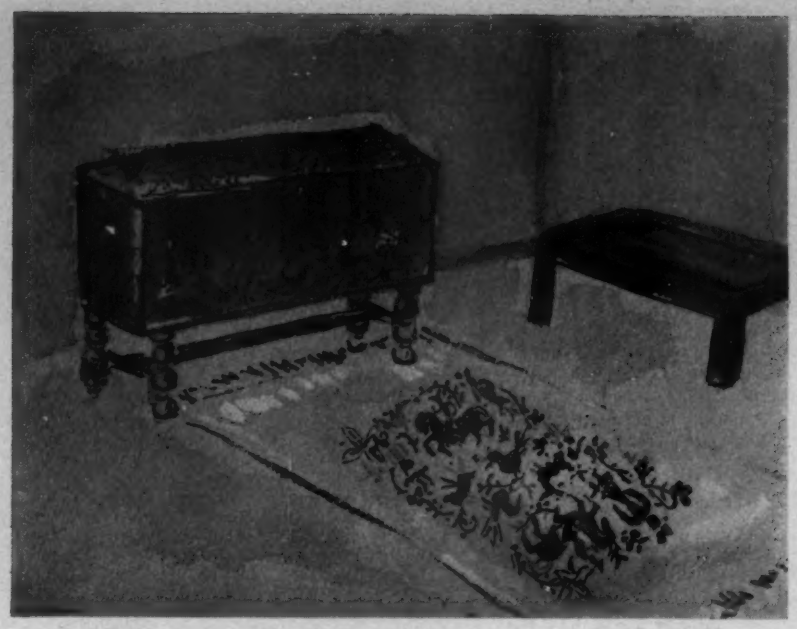
Another thing: the intellectual today is striving not for richness and luxury but for simplicity and functionalism. And these designs are truly functional. They have a deep respect for the materials out of which they are created. The design moves and grows with the material, emerges out of it as an integral part of the structure. It is never arbitrarily superimposed on the material. For this reason the designs have the freedom and the uninhibited quality of children's painting. And because of this simplicity in color and line they have a great affinity for good modern furniture in clean, uncluttered modern rooms.

It would be presumptuous to say that these are the only reasons behind the acceptance of primitive design motifs like those of Olga Fisch shown on these pages. But we do feel it is one valid aspect of a shift in taste which has imparted the attributes of modern to the decorative crafts of an old and disappearing culture.

Casamiento — Folklore in textile weaving . . . multi-color design on natural background.

Fisch Furniture is popular in the homes of American residents in Ecuador. The above piece is B.D. — Before Decoration.

Gallito — is the sprightly name which Fisch gives to the rug above.



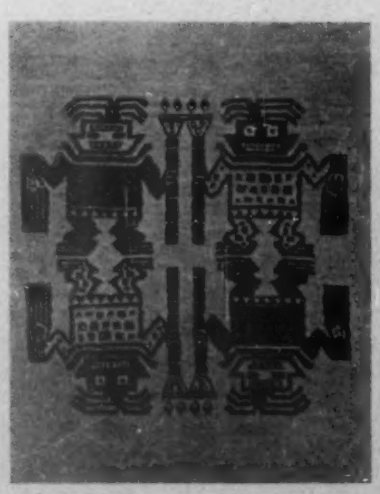
Olga Fisch will start an interior decorating job with one of her famous sophisticated primitive textile designs . . . weave it into a rug in bold original colors and then ensemble it with furniture decorated with the same design as shown in the sketch above.

ECUADORIAN PRIMITIVES

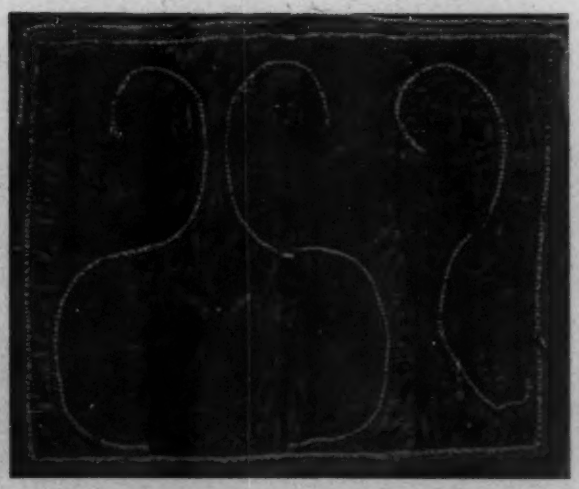
APPEAL TO SOPHISTICATES

The rich and ancient culture of Ecuador, in the designs of Olga Fisch,

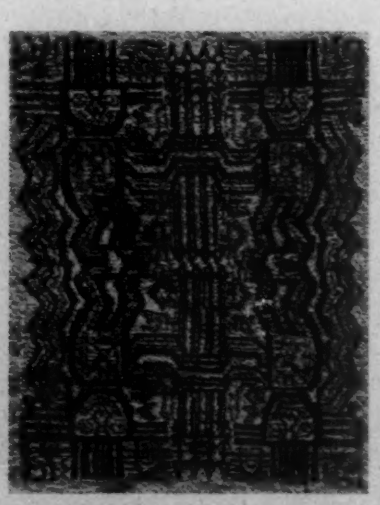
give interior decorators a rich and unique field in which to work



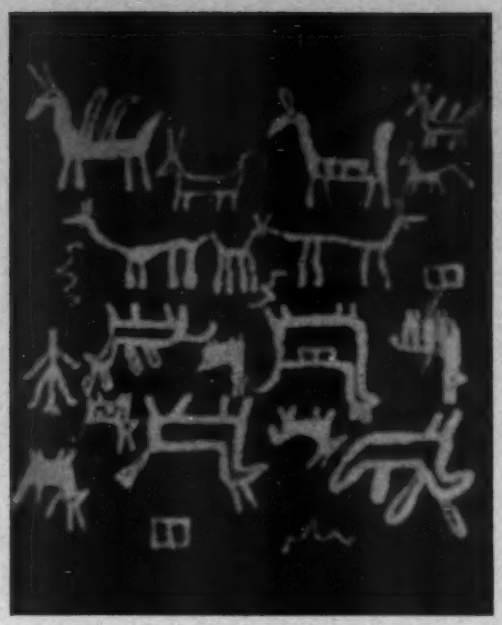
An Olga Fisch design invariably retains the freshness of the original Ecuadorian inspiration.



A coverlet of dancing Indians is refreshingly different in conception and execution.



Idolo — typical Fisch conception of Ecuadorian Folklore in yellow and brown on natural white background.



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TEST YOUR COLOR APTITUDE

Howard Ketcham, American Fabrics' consultant editor on color, has evolved a test by which the reader may test color perception and the relation of color to the psychology of most persons. Read this article and test yourself with the Color "Eye"-Q chart following, checking your answers to the 24 questions he provides against the answers which are the product of study in color uses, both in fabrics and in other materials.

Greensboro, North Carolina, is a well known Southern city of medium size with two women's colleges, a flourishing manufacturing industry which produces textiles and textile products, chemicals and building materials, and a prosperous regional headquarters for insurance firms. In this city of 60,000 whose streets are shaded by magnolia, dogwood and pine, an interesting survey was undertaken not long ago to determine for the home furnishings industry just how much American women know about color and color taste.

* * *

Results indicated that manufacturers could expect the mass market to show color consciousness in their purchases. In the home furnishings field this has now been put to practical service by means of a color coordination program sponsored by the Home Furnishings Style Council in which 15 jointly selected colors are offered by manufacturers of various items. Label tags on the merchandise indicate the harmony colors. The housewife can buy a carpet bearing one of these tags, and from the tag can learn which colors for draperies, slip covers, upholstery and lampshade covers will provide a pleasing effect.

By the same token, the mass market is not yet color-*smart*. (When the customer thinks about getting merchandise in the correct color, she's color-*conscious*. When she knows what color to refuse, she's color-*smart*.)

For the most part, the public — and the business men who cater to the public — lack confidence in their color judgment. One need only look to the exterior of the average private home to see the evidence. In fear of erroneous color selection — and for an equal lack of confidence in the color wisdom of painting contractors — most householders permit color beauty to go by default, and settle for plain white over all. For the nondescript house which needs color treatment to impart some measure of distinction, this is a happy measure, for unbroken white gives the impression of greater size. *But how many homeowners could boast of a better-looking residence if only they had had confidence in their color taste?*

* * *

Surveys made for the National Paint, Varnish and Lacquer Association and for individual manufacturers under the author's guidance indicated a definite set of preferences as to roof colors, blends, exterior colors and trim colors for shutters, doors and other features. The surveys have revealed preferences that vary according to geographic area, age and personality. But all too often the householder settled for severe white or ivory tones, unembellished by evidences of individual taste.

The same lack of confidence in color taste extends to business firms or individuals using the direct-mail approach to promotional problems. Testing of a single letter, using mailing lists of a thousand in each combination of letterhead paper and envelope, brought these percentages of returns:

Pink paper, blue envelope	— 48% replies
Yellow paper, blue envelope	— 34% "
Green paper, blue envelope	— 28% "
White paper, blue envelope	— 12% "
White paper, white envelope	— 9% "

Yet innate color conservatism, that same lack of confidence, has caused business men to shy away from daring uses of suitably tinted paper, with tinted typewriter ribbon, that might win attention, distinction and results.

* * *

To help AMERICAN FABRICS readers improve their ability to use colors imaginatively and effectively to create impressions and earn prestige, a test has been developed which indicates the ability to employ color in a way to create desired effects.

Because color choice is a product of personality of the individuality, it is possible to demonstrate color as a psychological tool.

The results of the test, in most cases, will show the reader that his Color Eye-Q is higher than he realized.

Because color is so closely related to human psychological factors, it may be said that:

COLOR has SEX

COLOR has HARMONY or DISCORD

COLOR has STRENGTH or WEAKNESS

COLOR can STIMULATE or SOOTHE

COLOR reveals AGE or YOUTH in taste

COLOR denotes MOOD

We have seen that consumers are capable of indicating their color preferences with enough assurance to permit pre-testing studies which will predict how a product will sell in each color. In the last issue of AMERICAN FABRICS, I showed that this technique could be applied to the selection of a seasonal line of apparel colors. I have mentioned also how the colors used by the automotive industry were narrowed from 13,000 to 600 through consumer testing, and how one manufacturer who paid particular attention to consumer testing of colors received over two-thirds of the votes in the last yearly Automobile Show.

In recent months we have had occasion to apply such testing to upholstery colors for railroad coach interior and to space heaters for various rooms in the home. In the textile field, it has also been applied to blankets, hosiery, etc.

And always we have seen that color preferences are definite in nature, and closely related to individual factors indicated above.

This is a most important consideration for the fashion and decorative fabrics industry which, in a recent study of product design programs in 14 industry groups, led all others in the percentage of companies which planned color changes. Sixty percent of the companies in the textile field were preparing new color treatments. And in close to three-quarters of these companies the firm's president was personally concerned with making the change.

* * *

Therefore we are offering a test of the reader's ability to select from among sixty colors those which create one or another of the psychological reactions indicated above.

AMERICAN FABRICS

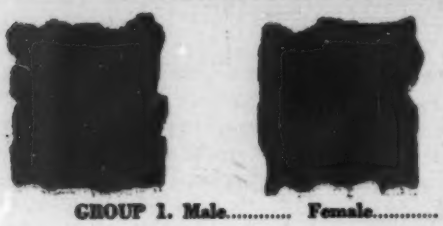
COLOR "EYE"-Q TEST

Turn this page to the Color "EYE"-Q Test on which is reproduced 60 colors grouped in combinations of two and three colors each. Test instructions are simple . . . merely indicate how each group of colors appears to you—male or female, harmonious or discordant, etc. Give your general reaction to the colors. Do not consider them as applying to any particular product. The answers and a method of computing your score will be found on the back page of the chart.

TEST YOUR

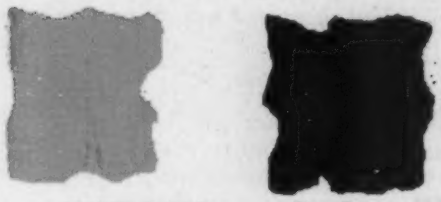
Note: In all questions, consider each as individual colors. Use a check

IN THE FOUR GROUPS BELOW: WHICH GROUP APPEALS TO MALE . . . FEMALE?



GROUP 1. Male..... Female.....

GROUP 2. Male..... Female.....

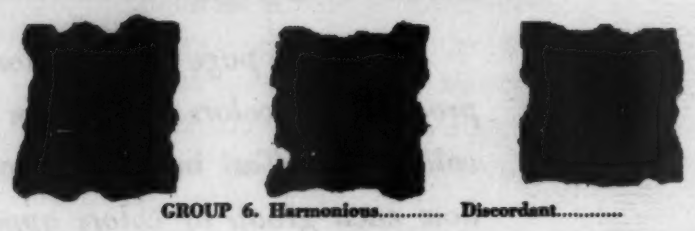


GROUP 3. Male..... Female.....

GROUP 4. Male..... Female.....

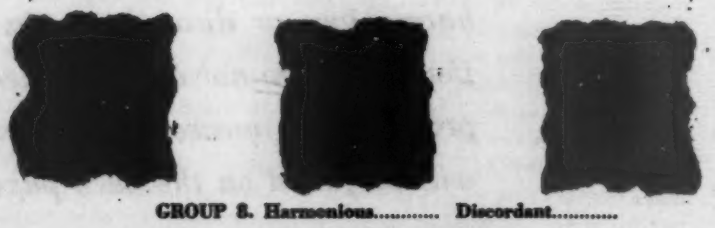
IN THESE GROUPS, ARE THE COLOR COMBINATIONS HARMONIOUS . . . DISCORDANT?

GROUP 5. Harmonious..... Discordant.....



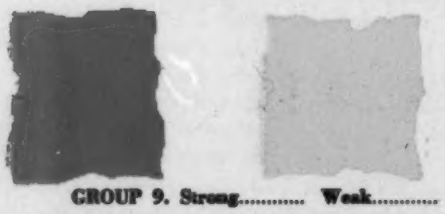
GROUP 6. Harmonious..... Discordant.....

GROUP 7. Harmonious..... Discordant.....



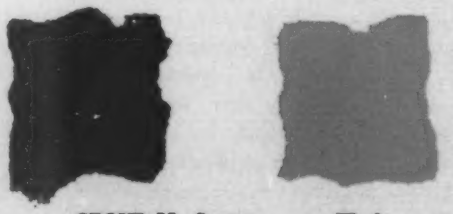
GROUP 8. Harmonious..... Discordant.....

INDICATE WHETHER COLORS ARE STRONG . . . WEAK . . . IN THESE FOUR GROUPS



GROUP 9. Strong..... Weak.....

GROUP 10. Strong..... Weak.....



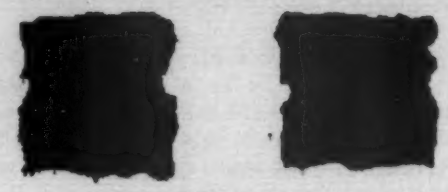
GROUP 11. Strong..... Weak.....

GROUP 12. Strong..... Weak.....

COLOR "EYE"-Q

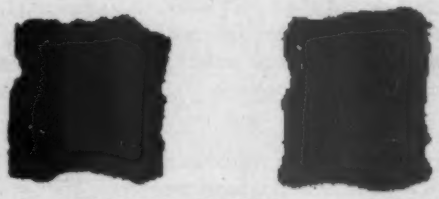
color group as a unit rather than mark to indicate your answer.

WHICH OF THESE GROUPS ARE STIMULATING . . . RELAXING?



GROUP 13. Stimulating..... Relaxing.....

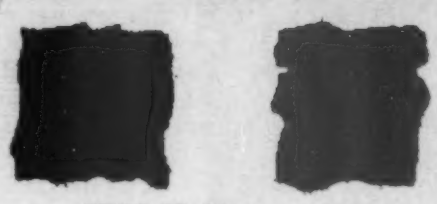
GROUP 14. Stimulating..... Relaxing.....



GROUP 15. Stimulating..... Relaxing.....

GROUP 16. Stimulating..... Relaxing.....

WHICH GROUPING OF COLORS APPEAL TO OLD . . . TO YOUNG?



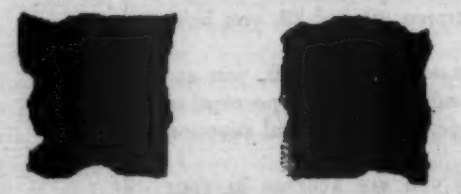
GROUP 17. Old..... Young.....

GROUP 18. Old..... Young.....

GROUP 19. Old..... Young.....

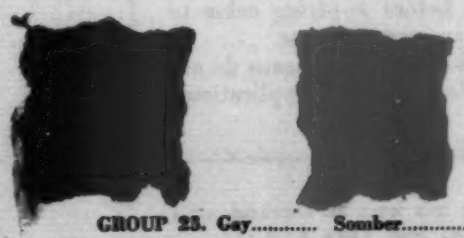
GROUP 20. Old..... Young.....

WHICH GROUPING OF COLORS ARE GAY . . . SOMBER?



GROUP 21. Gay..... Somber.....

GROUP 22. Gay..... Somber.....



GROUP 23. Gay..... Somber.....

GROUP 24. Gay..... Somber

For your score, turn the page.

CORRECT ANSWERS TO COLOR "EYE"-Q TEST

1. MASCULINE
2. FEMININE
3. FEMININE
4. MASCULINE

5. DISCORDANT
6. HARMONIOUS
7. HARMONIOUS
8. DISCORDANT

9. WEAK
10. WEAK
11. STRONG
12. STRONG

13. STIMULATING
14. STIMULATING
15. RELAXING
16. RELAXING

17. OLD
18. OLD
19. YOUNG
20. YOUNG

21. SOMBER
22. GAY
23. GAY
24. SOMBER

CORRECT ANSWERS TO COLOR "EYE"-Q TEST

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14. STIMULATING
15. RELAXING
16. RELAXING

17. OLD
18. OLD
19. YOUNG
20. YOUNG

21. SOMBER
22. GAY
23. SOMBER
24. GAY

Scoring Your Color Aptitude Test

You have answered 24 questions relating certain colors to specific human reactions. Check off the questions in which your answers tally with the answers given here. Multiply the number of correct answers by four.

If you have 24 answers correct, add four points as bonus. Your score is 100. You have exceptionally good color perception and an understanding of normal psychological reaction to color. Your score indicates you would do well in making best possible use of color in all its phases.

If your score is between 88 and 92, you have unusual ability in combining color perception and normal reaction to color appeals. Your advice should be heeded in any selection of colors for use in consumer products.

If your score is between 80 and 88, you have ability to use color.

If your score is between 72 and 80, you are above average in combining color perception and knowledge of typical psychological reaction to color.

If your score is 68 you are average in your appreciation of color. You would profit from the advice of others before applying color to your product or to your personal use.

If your score is under 68, by all means do not make your own decisions on color applications.

ADDITIONAL COPIES OF THIS TEST FOR EMPLOYEES, STORE PERSONNEL OR CLASSROOM USE WILL BE SUPPLIED AT A COST OF 50¢ PER CHART. ADDRESS AMERICAN FABRICS, EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

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SILK SCREENING BY TILLETT STUDIO, OSCAWANA, N. Y.

Color has sex — In a study of memory-value of advertising blotters enclosed in letters, it was found that men recalled the message of a purplish blue blotter best, while women were most affected by a pure blue of dark value. Masculine, virile males are apt to choose strong colors for surroundings, where softer pastels will appeal to a woman; yet, in clothes, it was found not long ago that men could not be moved to adopt strong maroon or wine-color evening clothes, or some pink tints for undergarments. Women, on the other hand, prefer soft colors, and it has become imperative to provide pink wall colors in the fitting rooms of dress shops and department stores.

* * *

Colors are harmonious or discordant — For a color treatment of a certain consumer product, it was proposed that green stripes on a white background and red stripes on white background be used for different items in the line. One economy-minded executive suggested a single design, in alternating red and green stripes — until it was demonstrated that the colors were discordant together, with red and green negative after-images or color aberrations occuring in the eyes of the beholder.

In Nazi concentration camps, rooms painted in harshly discordant colors and brilliantly lighted were set aside for special victims because of their nerve-wracking effect on prisoners.

* * *

Color has strength or weakness — An orange has been established as the international standard for high visibility because the strength of this particular hue has remarkable carrying power. It is widely used on highway markers because of its distinguishability, and because of its legibility for use in signs as a background for black letters. Another strong hue is yellow, certain variations of which are in many cases required by law as a color treatment for school busses; treatment in this hue is a valued safety measure, increasing the visibility of the vehicle and preventing collisions thereby, because the color has strength, strong light reflection and good contrast to the purplish blue of the sky.

* * *

Color can stimulate or soothe — Although the theory voiced at one time that color could cure hospital patients has long since been exploded from its practical position in the medical scheme of things, it is true that color conditioning of hospital rooms can aid or retard in the recovery of a patient through psychological effects. It is believed that patients who face a long convalescence can be stimulated into a cheerful frame of mind by certain colors, whereas others in different circumstances can be over-stimulated and suffer thereby. It has been found that a peach-colored room for a maternity patient can speed in the return of strength and thus hasten departure. Certain blues can serve as a sedative for the restive patient, and relax the patient with a chronic disease during a slow recovery. It has been found that stimulating red, on the walls of a classroom, can make a lecture seem longer by wearing on the sensibility of the student; in a football team's dressing room, it can lend fire to a coach's brief pep talk.

COLOR IN PETTICOAT POLITICS

When the Empress Josephine learned that Napoleon's sister Pauline, Countess Borghese, was to wear a dress of deep green on a state visit, she hastily redecorated the drawing room for such receptions with wallpaper, furniture, coverings and rugs in a shade of blue which made the dress of her hated sister-in-law appear vulgar and garish.

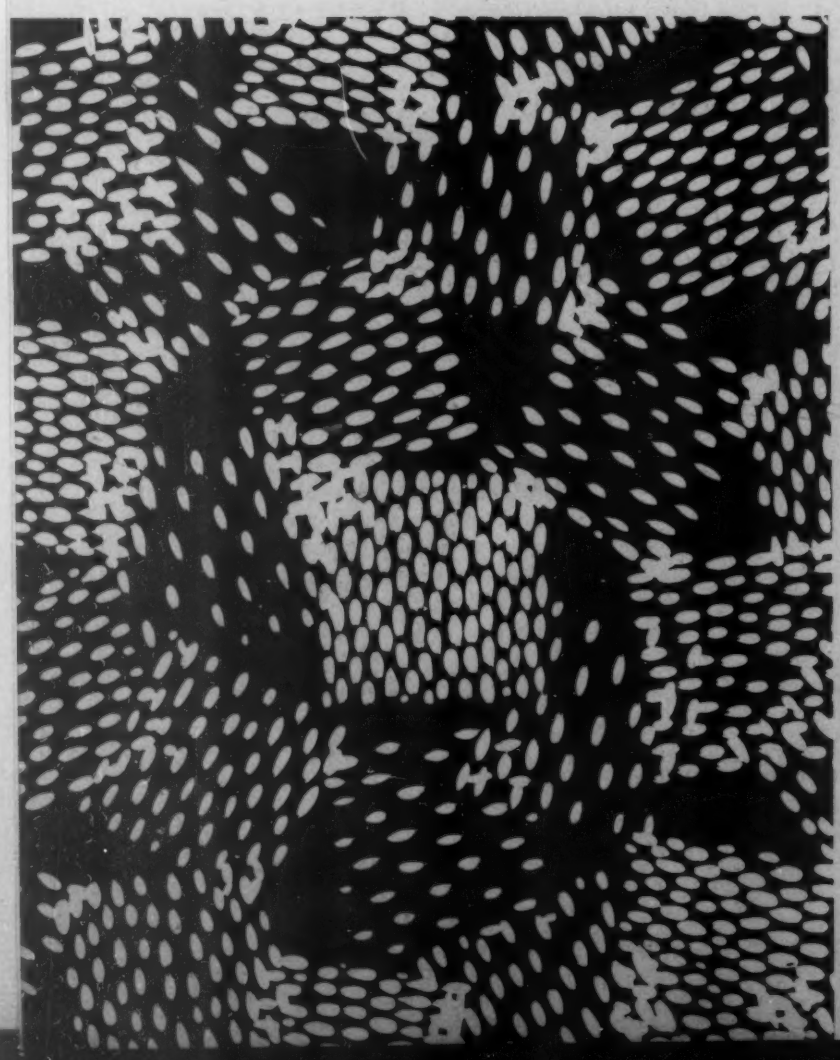
Color taste denotes age or youth — Our survey of women's color preferences for apparel fabrics showed marked indications of the effect of age on taste. The purer colors in light values were preferred by younger women, while older women chose grayed, dark colors. Children like their colors bright and sharp. The preference of older people for lighter and darker values of color, rather than the medium values, is sometimes attributed to physiological action in the retina, but no definite conclusion has been established along these lines.

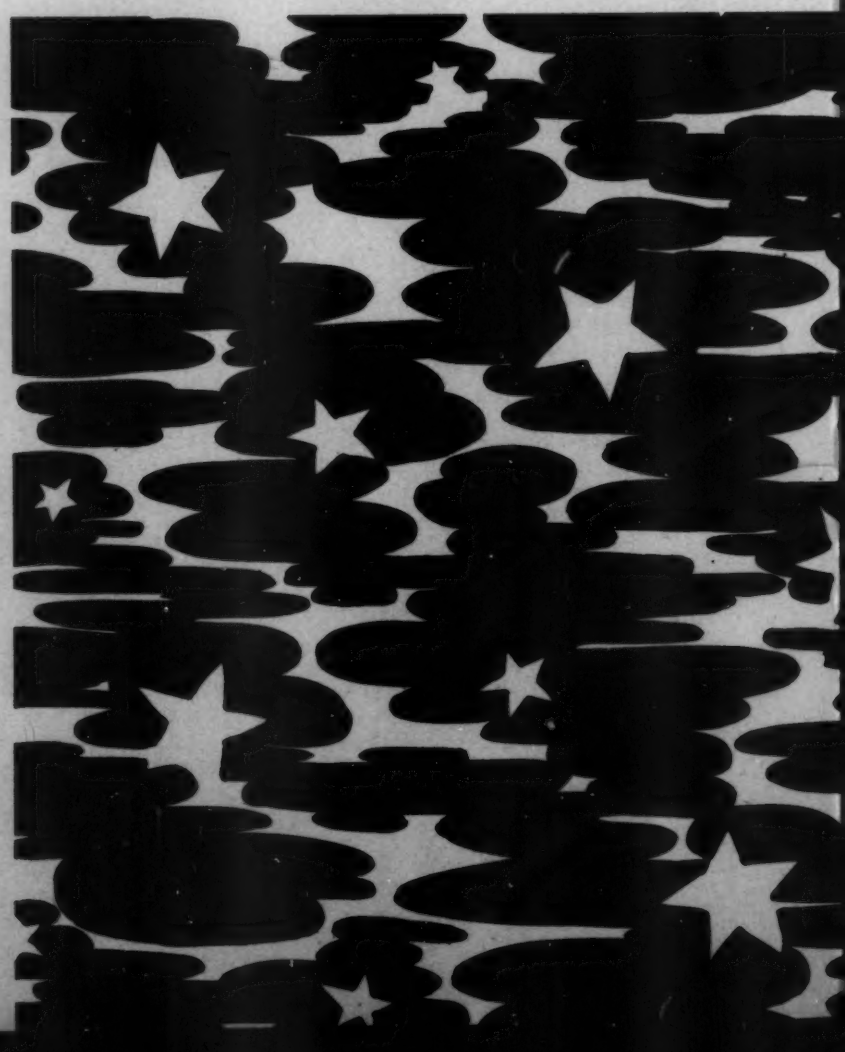
* * *

Color denotes mood — A recent production of an American opera at the Metropolitan placed full dependence upon color lighting, rather than upon the scenery, to carry the mood of the story. Certain blues are considered depressing, while others are restful in their effect. The stimulating colors of sunlight — red, orange, yellow and their combinations — are cheerful in proper volume of area, but an overdose of the same color can serve as an irritant. Green, the color of nature can serve to soothe, but with certain blue undertones it can be depressive. The makers of the famed stained-glass windows of Europe's great cathedrals understood such matters centuries ago, creating a hallowed or sanctified mood through use of color; the famed Tree of Jesse window in the north lancet of the cathedral at Chartres is a splendid example.

The End

BLACK, perennial favorite, takes on new





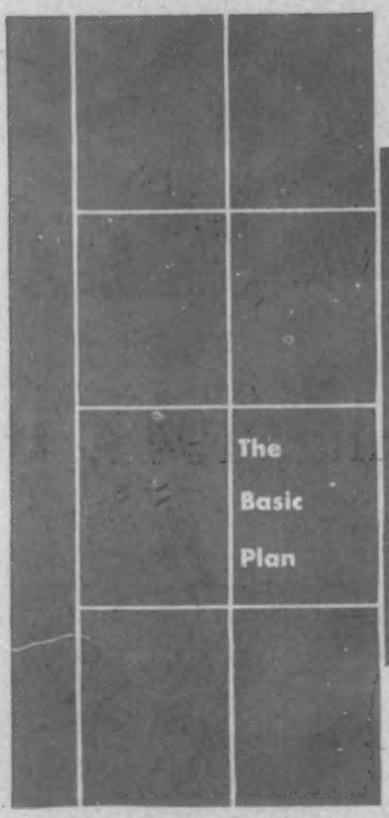
ew freshness and femininity for Spring, 1948.

Patterns courtesy of Cohama

American Fabrics—the Basis of the American Wardrobe

architect: tobe, fashion editor of Women's Reporter

Photographs by Peter Fland at El Morocco, the Stork Club, Versailles, Sherry-Netherland Hotel



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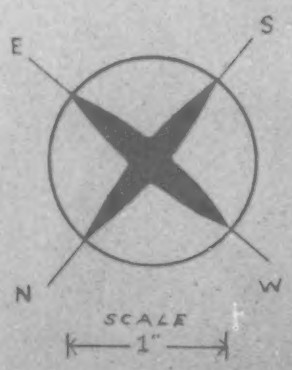


First Addition — The Week-End Wing

5.

6.

7.

8.

Second Addition — The Social Ell

9.

10.

the basic plan

1. BASIC BLACK CREPE DRESS
2. BASIC BROADCLOTH SUIT
3. BASIC BLACK SATIN DINNER DRESS
4. BASIC BLACK BROADCLOTH COAT

the week-end wing

5. CASUAL PLAID WOOL DRESS
6. CASUAL HOODED TWEED COAT
7. CASUAL TOWN-AND-COUNTRY COMPANION COAT AND SUIT
8. RIDING HABIT

the social ell

9. SOFT GRAY WOOL DRESS
10. WINE WOOL SUIT DRESS

the glamour ell

11. AFTERNOON COSTUME ENSEMBLE
12. FORMAL LACE EVENING GOWN

the mortgage

13. LONG WRAPPED NUTRIA COAT

13.

Fourth Addition — The Mortgage

Third Addition — The Glamour Ell

11.

12.

SOFT NEUTRAL beige or black broadcloth, by Ben Gershel. The small shawl collar, tiny waist and curving hips make it undoubtedly Fall-1947. New wide-at-the-side hat in matching velveteen with soft rose facing by Sally Victor. Russian sable stole from Ackerman-Blatt. Fabric by Forstmann.

PHILIP MANGONE'S wonderful new black broadcloth coat, long enough to cover your new dresses, closely wrapped to make you look like a tall slender column. Luxurious black fox edges the draped cowl collar and cuff. High velvet toque with ostrich by Sally Victor. Fabric by Forstmann.

Swatch is Marlaine — 100% virgin wool broadcloth in lustrous Tapestry Tones developed from old European tapestries. Forstmann Woolen Co.

On opposite page — Forstmann satiny brown broadcloth in a costume ensemble by Paul Parnes.

BROADCLOTH

plays vital part in the new Fashion Wardrobe

soft, suedey and a departure from coatings and suitings as commonly seen . . . darling of the fashion industry . . .

introduced again last year after a long absence, in the high-fashion bracket . . . greeted warmly by women whenever offered . . . and destined for top fashion acceptance by Spring-'48.

At left, **Stroock Tweed** in a sweeping full, casual coat with a dramatic hood. Designed by Original Modes. *At right,* **Forstmann's** giant sharkskin wool with casual black coat faced in sharkskin. Designed by Philip Mangone.

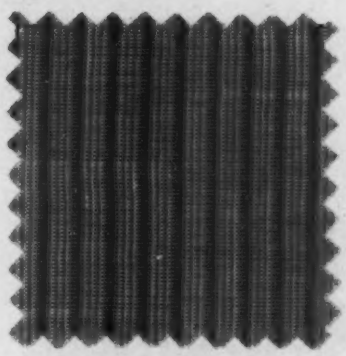
Ducharne Wool in a soft wine color in this two piece suit dress. The smartly draped side flange is repeated in the side wrap of the skirt. Designed by Ann Sadowsky.

Black Satin — in a new-looking draped black satin basic dinner dress . . . with long tight fitting sleeves and wide open off-the-shoulder neckline. Designed by Adele Simpson.

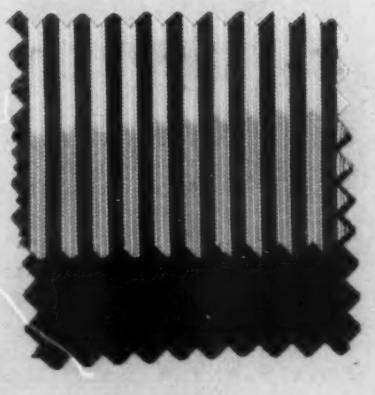
Miron's beige and brown plaid tissue worsted in a new shirtwaist dress. Designed by Kane-Weill. *At right,* **Gray wool** dress cut on full princess lines with gold hooks and eyes fastenings. By Trigere.

FASHION Begins with the FABRIC

American Fabrics Portfolio **Number IV, Fall, 1947**

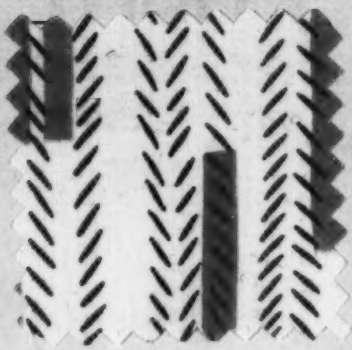


Galey & Lord's gingham + metallic . . . is important news from two angles. Number one, it emphasizes the fact that cotton has truly entered the glamour category and, number two, it opens fresh possibilities in the weaving of high style cottons. Galey & Lord's mastery of the technical details involved in producing this metallized gingham must certainly be commended by the entire textile industry.



Lonsdale's Cotton Story . . . a presentation of coordinated fabrics that lend themselves to fascinating active and spectator wear. The stripe, a Lonsdale cord, represents a revival of Madras, an old time favorite. Lonsdale's poplin and cord combinations are the sort of fashion fabrics which will help American designers set the pace for the rest of the world.

Cotton (Continued)



Bates' featherweight batistes . . . emphasize the noteworthy progress being made by our textile manufacturers in the field of specialty cottons. Here is a featherweight cotton perfectly adapted to southern sports and spectator wear and ideal for the summer of 1948.

Iridescents are Style News . . . Iridescents are in the fashion spotlight and Dan River's iridescent cotton plaids are in the newest fashion trend and are a definite hallmark of the 1948 cottons.

Small Patterns in the News . . . Small patterns especially in abstract combinations are a coming vogue. With the styling trend away from conversation pieces these small patterns are the mark of the latest in prints. The Gourdon creation is a typically fine combination of styling and coloring applied to a quality fabric. The look is both French and feminine.

New Textures in Tropical Weight . . . Wesley Simpson, who has won such deserved fame for his design ideas, now steps out with custom fabric construction that is just as noteworthy as his styling. He combines nylon, rayon and woolen to make a lovely crease-resistant tropical weight fabric light enough for fine tailoring and manipulation.

Iridescent Elkskin . . . Cohama, whose versatility has been a bright spot on the American fashion and fabric horizon, produces this double face satin back end and end iridescent elkskin. It is a particularly fine fabric for fashion rainwear.

WORSTED NEWS: 5000 YEARS OLD

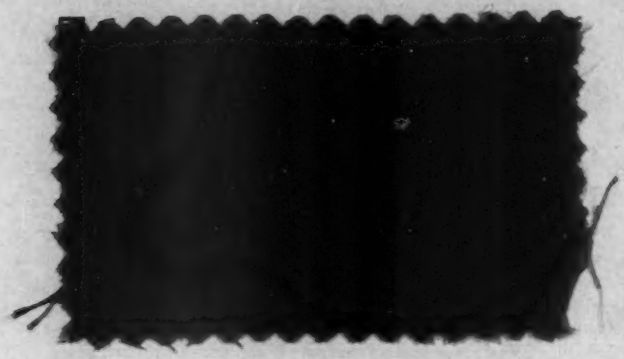
An American Textile Industry Development Brings Back a Fabric Idea Centuries Old, with a Modern Treatment

The earliest examples of printing on fabric are wool prints, unearthed by scientists in search of clues to man's history. Bridging the gap between 3500 B.C. and modern times, the industry comes to wool prints which emanated from the British Isles in a prewar trickle which dried up in late '39 . . . to disappear from the textile picture until Milliken recently revealed its spectacular development of prints on sheer worsteds.

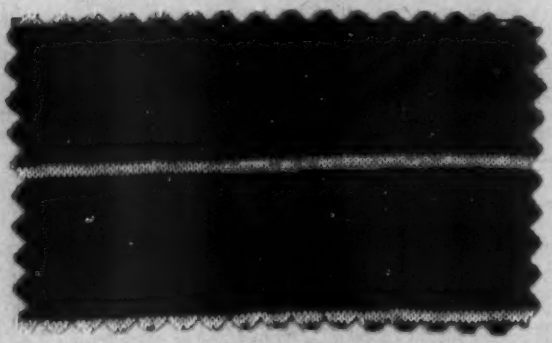
But there is more than a span of centuries between the prehistoric wool prints and those of Milliken; more than a marked difference between those of Britain and those of Milliken. Aside from the common use of wool, there is no similarity. In the first place, Milliken completely departed from worsted fabrics as the world knew them, and started from scratch to loom worsteds of an unusual weight and texture; the swatch tipped in on opposite page is 6½ ounces in weight (54 inch width), and the mills are even now working on much lighter weight worsteds.

Next, in order to meet the requirements of today's fashion . . . not only for women's apparel, but for men and for home uses . . . Milliken has developed the cloth for numerous end uses. But the third departure . . . and that which instantly marks this as an important new development with great potential . . . lies in the type of design which is being printed on Milliken's fine worsteds. In the hands of master-designers D. D. and Leslie Tillett, the Milliken worsteds become a refreshing new field for the American manufacturer.

In order to take advantage of the natural affinity of dye to wool fiber, a miniature laboratory develops the brilliant acid tones, the dull muted earth colors; and the opportunity for skillful blending is explored to achieve a new color palette. New methods are used to garner the maximum color excitement, so that wool prints are no longer confined to traditional Foxhead and Tyrolian patterns. In fact, now in work are patterns of such fine discernment that Milliken worsted prints will soon be seen in women's evening dresses, scarves and other articles hitherto considered locked to rayons, cottons and silks.



News in Home Furnishings Fabric . . . F. Schumacher and Company has just introduced a nylon damask focusing further interest on the field of decorative fabrics . . . an outstanding example of the strides America has made in the decorative fabric field.



Worsted Stripe Jersey Knit . . . If anything is a sure shot in the world of fashion, we would nominate jersey knit. I. A. Wyner's tricot jersey has all the attributes that should endear it to women who want wearability, durability and crisp tailoring. Note the fine texture of the construction itself.

California Fabrics

Rube Hoffman of California, who has developed an original flair for styling woolens in a California manner, has produced a series of Wagon Wheels — patterns in colorful combinations with plain colors to match as per the swatches shown herewith.

Elza of Hollywood, whose designs have been widely and eagerly sought, is now producing her own, and her Karacul — a featherweight printed worsted is an outstanding example . . . sold in limited editions — one store to a city.

Watch for . . .

A growing consumer interest in Broadcloth woolens as a new dress-up fabric for coats and suits . . . A definite departure from the conversational or fixed-type print in rayons and cottons and a strong leaning toward patterns utilizing Art and Color Forms of an Abstract nature, with more freedom and looseness than the industry has seen in a decade . . . Wider use of Chrome Tones by midsummer of '48, stressing clarity rather than mere boldness of color . . . More Green, Green and Green in women's fashion fabrics; more White for men's leisure clothes for next summer . . . A greater self-confidence on the part of American mills that they can produce newer ideas, but better, than the British and French; such as the metallic cottons and iridescent plaids and printed lightweight worsteds mentioned in the foregoing pages . . .

letters to the editor

TO THE EDITORS:

In your index the descriptions of "Fibro," "Fibroceta," "Fibrolane," and "Rayolanda" (which are registered trade names of this company) appear to give the impression that these rayon staple fibers are made only in the staple lengths and deniers quoted. In actual fact these various types of rayon staple can be made to suit different British Spinning systems, and their staple length and denier will, therefore, vary accordingly. It is suggested that the references in future are restricted to general descriptions only, i.e., "Fibro" — viscose rayon staple, "Fibroceta"—acetate rayon staple, "Fibrolane" — casein rayon staple, "Rayolanda" — viscose staple with special properties, the most important of which is an affinity for wool dyes.

K. G. HIBBS, Courtaulds, Ltd.,
London, England.

* * *

TO THE EDITORS:

Thanks for giving America a magazine that compares with the French and Swiss at a fair price.

Virginia M. Roos, Chicago, Ill.

* * *

TO THE EDITORS:

In examining Vol. III of AMERICAN FABRICS, I notice on page 46 you state that I won the offered prize for creating the name "Rayon." It is perfectly true I created the name, but I never was aware that there was any prize offered.

Kenneth Lord
Galey & Lord, New York

* * *

TO THE EDITORS:

Cannot keep from expressing my opinion with regard to the article published under the title "Let us learn from others," in the third issue of your AMERICAN FABRICS magazine.

I am a foreigner, actually living in the United States and have great respect and admiration for American industry. I sincerely believe that, as far as fashion and textiles are concerned, tremendous progress has been made in this country in the past few years. However, I also believe that high quality fabrics are still being made in France with which nothing can be compared. I can make such a statement because I have seen samples of such fabrics and did not find anything in the domestic production which could compete with them as far as texture and colors are concerned.

Of course, such fabrics are terribly high-priced but they still exist and French fashions are still tops, in spite of what your reporter says. Copies of models from Christian Dior, for instance, are being shown in practically all the better stores of Chicago.

Your country is great and generous and your help to Europe should be highly appreciated by everyone; do not spoil such feelings by articles in the tone of the one which prompted this letter!

Laura Nadal, Chicago, Ill.

* * *

TO THE EDITORS:

If one gets a thrill, one ought to do something about it. American Fabrics numbers one, two and three not only give me a thrill but increase my appetite for the fabric end of our business.

The story of rayon in American Fabrics number three added greatly to my education. In fact, it gave me an idea. Each Saturday we have teen-agers who take lessons in cutting and making dresses in Fabric Hall, the name we gave our yard goods department on the 2nd floor at "the world's busiest corner." We also have a group of youngsters, known as the Bostonettes, who are designing costumes and putting on a travel style show. I would like the privilege of mimeographing your rayon story and distributing it, with due credit, to the young people who are learning to sew under our auspices, and also to the public school children who come in from time to time to learn something about fabrics.

Edgar L. Schnadig, *President*
The New Boston Store, Chicago

* * *

TO THE EDITORS:

I have opened a shop in the historic building where Alexander Hamilton clerked as a boy and want to feature superlative cotton fabrics.

I would have a larger market for individual dress length (from 3 to 6 yards) of such fabrics than from the bolt inasmuch as none of the local residents "would be caught dead" in a dress made from the same material as that of anyone else on the island.

Can you give me the names of manufacturers, jobbers or dress houses who would be willing to supply me with such dress lengths at wholesale prices. I am writing you inasmuch as none of the regular suppliers of remnants, job lots, etc. seem to specialize in the best quality cottons. Possibly you know of a company who does, in which case I could write them directly.

My copies of "American Fabrics" make "my mouth water" for some of the beautiful fabrics you describe.

Flavilla W. Losch
Hamilton House, Christiansted,
St. Croix, Virgin Islands

* * *

TO THE EDITORS:

As member of the Board of a textile school in Zurich, I have seen your publication there, and I was greatly impressed by it.

I really must compliment you to your journal which is something quite out of the ordinary and this is what we need to-day as a guide in knowing what the public in countries overseas are asking for.

J. F. Angehrn
Thalwil, Switzerland

* * *

TO THE EDITORS:

In the number 2 issue, your section 'Epic of Rama and the Monkey' by Margaret R. Scherer is very interesting, but much misleading as far as the true story of Ramayana is concerned. You will permit me to correct dear Margaret, with due respect.

1. The place of the throne of Rama is known as AYODHYA and not OUDH.

2. The last sentence of the second paragraph ending with 'leaving the kingdom in her son's (Bharat's) hands', should have been followed by — 'who never accepted the throne, and went into exile himself, leaving the throne to ministers and people.'

3. The statement in the third paragraph 'Sita robed in silk' is not true. She shared the fate of her husband by wearing jungle dress. Further, Sita 'trembled like a doe before the snare' but did not weep.

4. Going over to the last paragraph, dear Margaret may be informed that Rama was the God superior. The incident quoted here, of Rama begging of gods for lives of Monkeys and bears, never occured. The true story is this. Haouman, the leader of monkeys and bears, helped Rama thru out the fight. Rama was pleased, and asked him to choose a reward.

Maya Shanker - Pattani
Bombay, India

TO THE EDITORS:

On p. 71 of your current issue, you have devoted the space to my "pet peeve": The American Manufacturer's uncreative attitude toward our design and designers.

In some of my past experience, while purchasing and styling a line of Print designs in Paris, I found conditions apparent that encouraged designers to be creative. These conditions do not exist in this country. As a designer of many years experience, we could tell a tale of two that would enlighten American Fabrics on some of the circumstances that our designers have frequently been exposed to (especially originators).

Some of us, having turned to other fields where creative ideas keep pace with modern progress, will consider working in textiles only when sufficient dignity is accorded the transaction.

So, to-day we would like to shout hosannas, for at long last, someone has become articulate on a subject which has been long lamented in the design world.

B. W., New York, N. Y.

Correction to Dictionary of Textile Terms

The following corrections and notes should be made to the "Condensed Dictionary of Textile Terms" which was bound into No. III of AMERICAN FABRICS and which was issued as a separate supplement:

ORGANZA — This is the registered trade name of Bianchini and Ferier.

BEACH CLOTH AND PALM BEACH CLOTH — Both of these fabrics are the products of Goodall-Sanford and are the registered trade-names of this company.

POLO CLOTH — This is the registered trade name of Worumbo Mills, Inc.

Note: A second printing of the Condensed Dictionary of Textile Terms is now in process, which will enable us to accept orders for copies of this Dictionary at the price of $1 each. When ordering, please state number of copies desired and where they are to be shipped. Please address American Fabrics, Reporter Publications Inc., 350 5th Ave., New York 1, N. Y.

Lady Sewing, by Auguste Renoir

Courtesy The Art Institute of Chicago

WHAT THE PIECE GOODS BUYER CAN LEARN FROM THE APPAREL BUSINESS

A concrete program of suggestions designed to enable stores to render a better service to the millions of women in this country who make their own clothes

Not a piece goods buyer in the land, to our knowledge, is completely satisfied with the present high status of his sales and profit figures, for he well remembers the sharp dip in the curves which came after the first World War's boom. Or, if he had no personal knowledge of the change-about, at least he knows from past records in his own store and elsewhere that his department must cast about for new bolstering . . . or face the prospect of declining sales.

One obvious method of combatting this trend is, of course, the practice of cut-price . . . and cut-profit . . . promotion. But the curious thing about this method, as proved by study of the past, is that it is merely a temporary shot of adrenalin which must be repeated so often that ultimately there is no vigor left within the heart itself. It is only a matter of time before the piece goods department which has been hypodermicked with frequency starts down the last long slide.

Evidently, therefore, the forethinking piece goods buyer is casting about for a better method of maintaining . . . and even improving . . . today's position; a method which will not only produce continuous volume but which will not cut into either his departmental profit or its prestige. We recommend that he consider the following program, which proved its merit in the selling of ready-to-wear . . . and is easily adaptable to the merchandising, promotion and selling of piece goods:

I. Selling Piece Goods By Figure-Types

It is necessary, at the very beginning, that the piece goods buyer recognize this fact: *there is no average figure for women, as it has been commonly understood.* Through costly experience in the making of uniforms for women who served in the Armed Forces during the recent war, the Government learned that the typical American woman's figure proportions are completely at variance with the old-established concept.

The fashion industry . . . and that includes the dispensers of fabrics-by-the-yard . . . thought of the Average American Woman as a stately creature, head in the skies, treading regally. But in actuality, as Uncle Sam learned from taking the measurement of millions of women, the Average American Woman is relatively a tiny creature . . . *under 5-feet-5-inches!* In fact, this figure isn't even the precise average; it's the *top-average,* with most women coming under this height.

Furthermore, it developed, the American female population follows no set pattern when it comes to body-proportions. Huge segments fall into the various categories of Tall, Half-Size, Inter-Size, Junior, Teens . . . with literally millions of individuals comprising each category. In the early 20's the producers of ready-to-wear apparel gathered a glimmering of this situation, and began to produce according to Figure-Types . . . to sell according to Figure-Types . . . to promote to individual members of the individual Figure-Type groups.

The first important segment of the female population to receive their attention was the Junior Figure-Type, with Amos Parrish beating the drums vigorously and inspiringly to get the retailers of America on the Junior Bandwagon. Next in order of sequence came the Half-Size Figure-Type group; a number of manufacturers of women's coats, suits, dresses and sportswear changed over from styling and making general *average* lines to merchandise patterned exclusively to meet the figure . . . and fashion . . . requirements of women whose proportions needed specialized attention.

Since that time, America's fashion-apparel industry has turned widely to specialization by Figure-Types; its retailers merchandise and sell largely by Figure-Types; its women respond and buy more easily . . . and everybody concerned is happier.

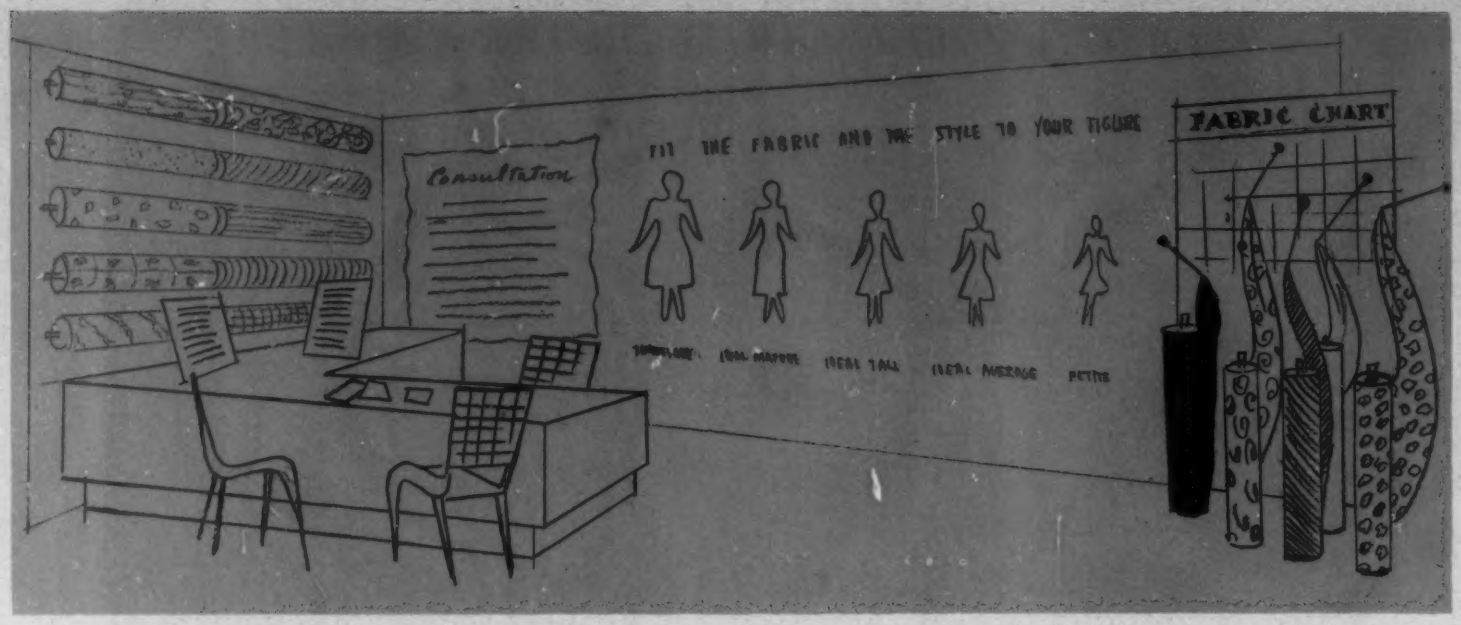
But the selling of piece goods by Figure-Types is more than merely a matter of stocking and arranging patterns; more than merely a promotional idea. Preparation for this method of selling calls for knowing . . . and having . . . the right types of fabrics, the right shades, the right weaves for each Figure-Type . . . and *then* getting the story across to your public.

II. Setting Up Your Department To Sell Fabrics By Figure-Types

It should be clearly understood, at the very onset, that the operation of this program does not call for a completely revolutionary attitude toward your present piece goods set-up. It is never good business to throw out everything overnight, and make a complete turnabout. Rather, we recommend that whatever changes are made be made as an addition to what is now being done.

For this reason, rather than rip the department apart and set it up entirely on the basis of Figure-Type classifications, we suggest that your present stock arrangement be maintained . . . but condensed to allow a fairly large and prominent area for presenting *types* of fabrics for the various Figure-Type customers' needs.

(*Please turn page*)



We visualize something along the lines of the area shown in the accompanying sketch which is roughly intended to get across the suggestion rather than the actual execution.

Basically, as the sketch indicates, you are presenting an inventory-display of Fabrics-by-Color-by-Weave-by-Figure-Type. There should be no intention or expectation of maintaining complete stocks for the purpose of actual selling in this area; it is the *idea* which is to be sold here . . . the *idea* that, regardless of her Figure-Type, your piece goods department is prepared to fill her requirements according to the best dictates of both fashion and science.

For there is a certain degree of science in the selection of fabrics for the individual woman; a science of which a small percentage of women are instinctively possessed, and with inimitable rules. Some of the rules are these, which are a matter of fairly common knowledge among sellers of ready-to-wear apparel; it would be wise for your own salespeople to know them and use them in their selling of fabrics:

The Petite Woman Should Never Wear

high square necklines . . . or peplums unless they are cut in extremely clever ways . . . or too-big prints . . . or splashy contrasts of color . . . or bold, vertical stripes.

The Petite Woman Should Wear

tiny-waist fashions . . . flaring skirts . . . ruffles and frills when in fashion . . . plain tailored lines at any time . . . vertical-line patterns . . . small prints . . . pastel colors . . . and bright shades only as trim-touches.

The Average Ideal Woman Should Never Wear

frilly and fussy clothes . . . horizontal-line or plaid patterns . . . or more than two contrasting colors in a costume . . . or severe necklines . . . or too-high necklines.

The Average Ideal Woman Should Wear

tailored-line things rather than fussy . . . plain dark shades when possible . . . low-cut necklines . . . up-and-down hemlines . . . long sleeves . . . bright solid colors . . . and small prints if she wants prints at all.

The Tall Ideal Woman Should Never Wear

tiny prints . . . tiny hats or other accessories . . . too-sedate lines and colors . . . unbroken straight lines.

The Tall Ideal Woman Should Wear

the dramatic . . . the daring . . . the bright colors . . . strong contrast . . . or stark simplicity . . . big prints . . . bold lines . . . wide-shoulder fashions . . . important accessories.

The Ideal Mature Woman Should Never Wear

tight dresses . . . too dramatic clothes . . . stark black without color relief . . . big splashy prints that cut her height or emphasize horizontal lines . . . big jewelry or oversize accessories.

The Ideal Mature Woman Should Wear

low necklines . . . simple blouses or blouse-effect clothes . . . attention-arresting skirts and hats . . . quiet, ladylike prints . . . tender colors . . . soft dressmaker type clothes rather than strictly tailored lines.

The Junoesque Woman Should Never Wear

tiny prints or muddy colors . . . high necklines or wide belts . . . horizontal lines . . . short skirts . . . unrelieved black or dull brown without color-accent.

The Junoesque Woman Should Wear

big prints well spaced on dark grounds . . . deep necklines . . . natural shoulders . . . vertical panels . . . subdued colors or pale all-over pastels.

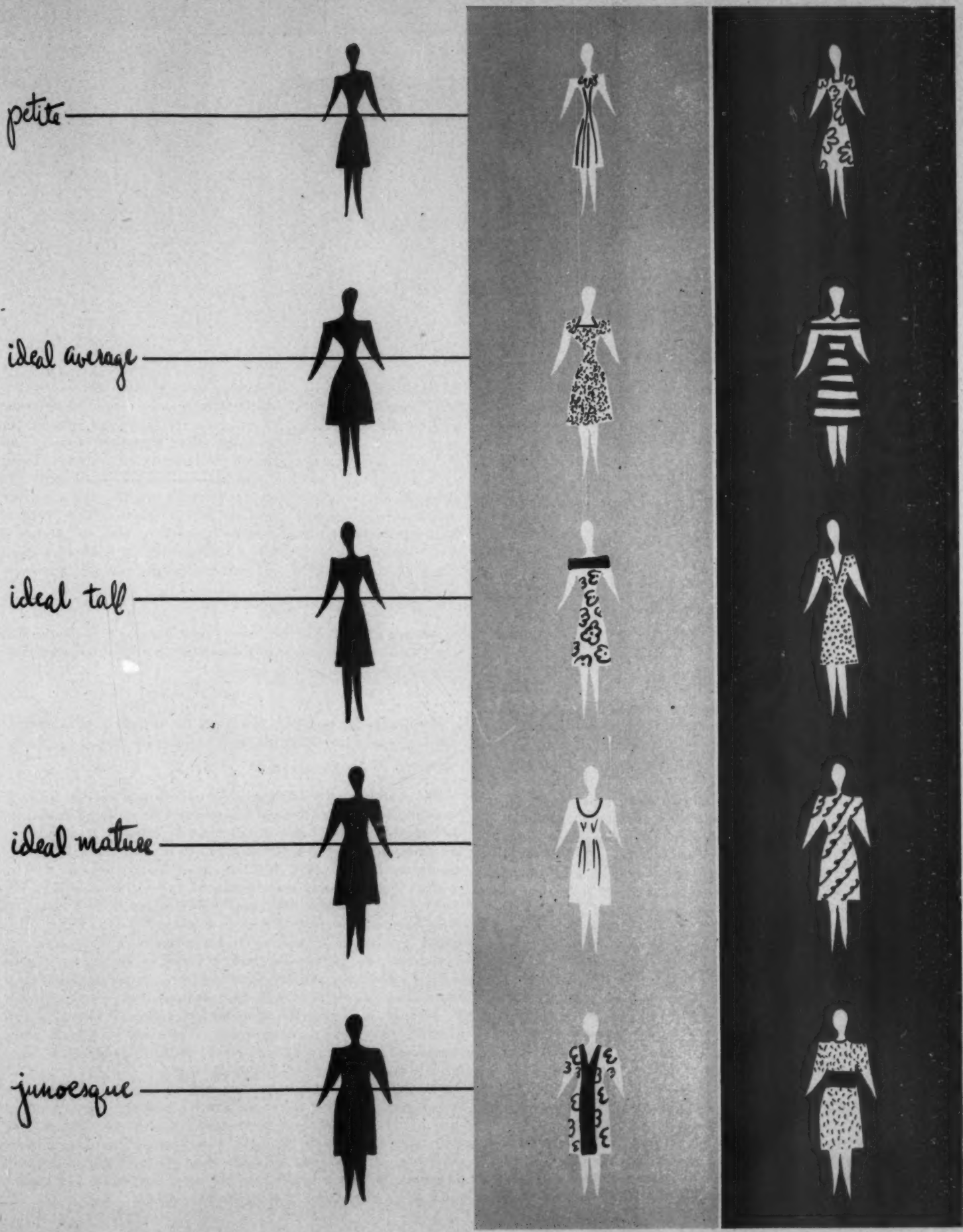
The rules printed above indicate a fairly obvious corollary: your pattern and trimming stocks must be well organized if you are to make the complete sale on the basis of Figure-Types. Not that you should have any trouble in achieving this goal, for both your pattern sources and your makers of trimming materials can supply you not only with the proper merchandise for the individual Figure-Type but with guidance and educational material which will help you to sell more goods, more easily.

As a matter of fact, study of any major pattern company's books over a period of time proves that they have been more than cursorily aware of the virtue of selling by Figure-Type; it is a major selling theme among the better pattern houses . . . and piece goods buyers can well follow their path in this procedure.

In subsequent issues of AMERICAN FABRICS we will develop the program more fully, with articles prepared by experts in the fields of Color and Promotion. Be sure you watch for them.

—THE EDITORS.

THESE ARE THE FIVE BASIC FIGURE-TYPES, REPRESENTING MOST AMERICAN WOMEN . . .
THEIR PROPORTIONS SUGGEST THE SOUNDNESS OF SELLING FABRICS ON THE BASIS OF TYPES.



From the Note-book of

Ralph Waldo Emerson . . . . . .

As soon as a stranger is introduced into any company, one of the first questions which all wish to have answered is, How does that man get his living? And with reason. He is no whole man until he knows how to earn a blameless livelihood.

* * *

Every man is a consumer, and ought to be a producer. He fails to make his place good in the world, unless he not only pays his debt, but also adds something to the common wealth.

* * *

Wealth is in applications of mind to nature; the art of getting rich consists not in industry, much less in saving, but in a better order, in timeliness, in being at the right spot.

* * *

He is the rich man who can avail himself of all men's faculties. He is the richest man who knows how to draw a benefit from the labors of the greatest number of men, of men in distant countries, and in past times.

* * *

They should own who can administer; not they who hoard and conceal; not they who, the greater proprietors they are, are only the greater beggars, but they whose work carves out work for more, opens a path for all. For he is the rich man in whom the people are rich, and he is the poor man in whom the people are poor; and how to give all access to the masterpieces of art and nature, is the problem of civilization.

* * *

Property is an intellectual production. The game requires coolness, right reasoning, promptness, and patience in the players. Cultivated labor drives out brute labor. An infinite number of shrewd men, in infinite years, have arrived at certain best and shortest ways of doing, and this accumulated skill in arts, cultures, harvestings, manufactures, navigations, exchanges, constitutes the worth of our world to-day.

Commerce is a game of skill, which every man cannot play, which few men can play well. The right merchant is one who has the just average of faculties we call *common-sense;* a man of a strong affinity for facts, who makes up his decision on what he has seen. He is thoroughly persuaded of the truths of arithmetic. There is always reason, *in the man,* for his good or bad fortune, and so, in making money. Men talk as if there were some magic about this, and believe in magic, in all parts of life. He knows that all goes on the old road, pound for pound, cent for cent, — for every effect a perfect cause — and that good luck is another name for tenacity of purpose. He insures himself in every transaction, and likes small and sure gains. Probity and closeness to the facts are the basis, but the masters of the art add a certain long arithmetic. The problem is, to combine many and remote operations, with the accuracy and adherence to the facts, which is easy in near and small transactions; so to arrive at gigantic results, without any compromise of safety.

* * *

Nature arms each man with some faculty which enables him to do easily some feat impossible to any other, and thus makes him necessary to society.

* * *

Nothing is beneath you, if it is in the direction of your life: nothing is great or desirable, if it is off from that.

* * *

The merchant has but one rule, *absorb and invest*: he is to be capitalist: the scraps and filings must be gathered back into the crucible; the gas and smoke must be burned, and earnings must not go to increase expense, but to capital again. Well, the man must be capitalist. Will he spend his income, or will he invest? His body and every organ is under the same law. His body is a jar, in which the liquor of life is stored. Will he spend for pleasure? The way to ruin is short and facile. Will he not spend, but hoard for power? It passes through the sacred fermentations, by that law of Nature whereby everything climbs to higher platforms, and bodily vigor becomes mental and moral vigor. The bread he eats is first strength and animal spirits; it becomes, in higher laboratories, imagery and thought; and in still higher results, courage and endurance. This is the right compound interest; this is capital doubled, quadrupled, centupled; man raised to his highest power.

The true thrift is always to spend on the higher plane; to invest and invest, with keener avarice, that he may spend in spiritual creation, and not in augmenting animal existence. Nor is the man enriched, in repeating the old experiments of animal sensation, nor unless, through new powers and ascending pleasures, he knows himself, by the actual experience of higher good, to be already on the way to the highest.

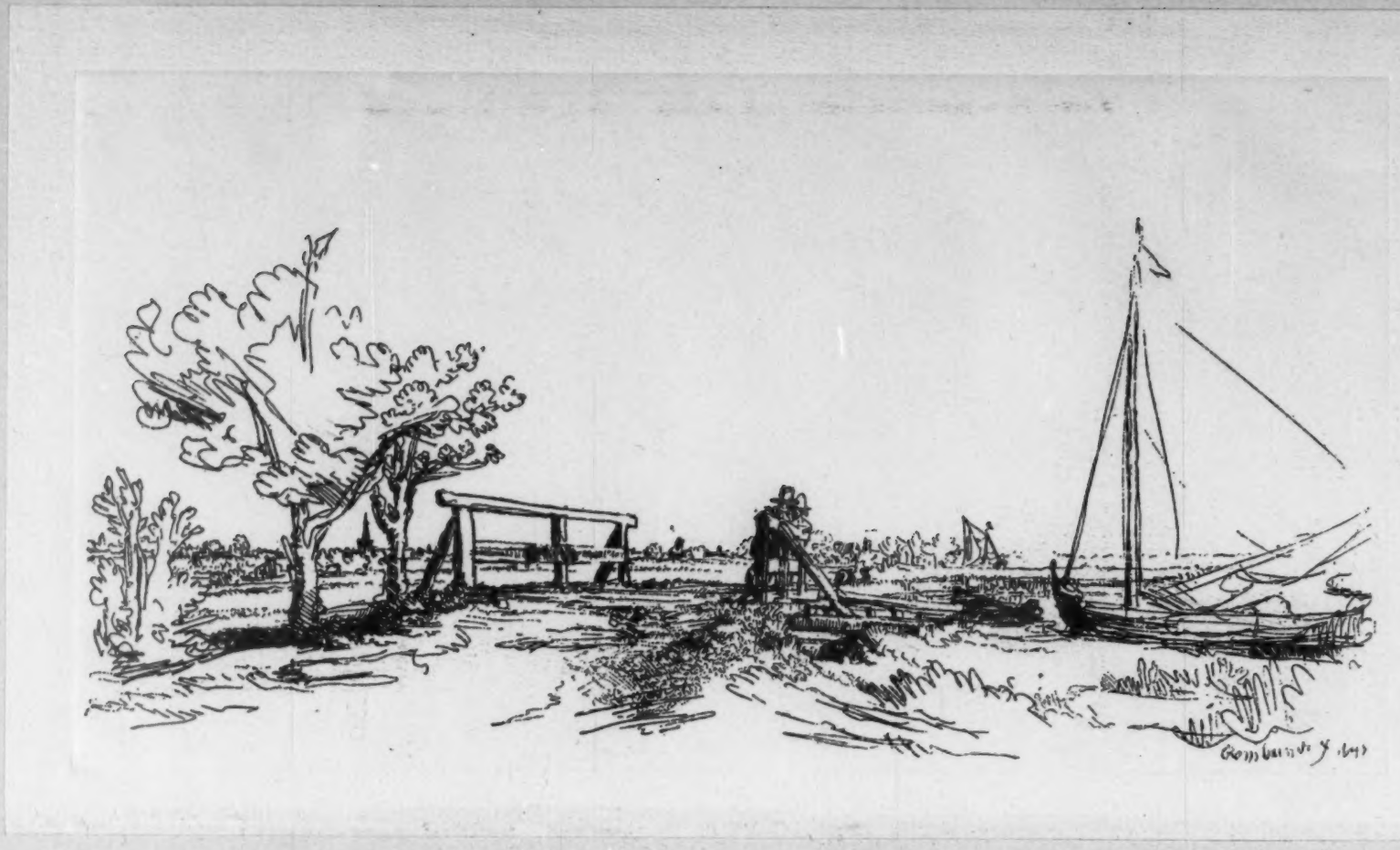
Rembrandt etching, "Joseph retailing His Dream to His Father" . . . courtesy Arthur H. Harlow & Co., New York

YOU CAN LEARN

design . . . texture . . . spatial relationship . . . emphasis . . . color . . . understatement . . . suggestion . . . from

Rembrandt

(please turn page)



This is Rembrandt's famous etching, "Six Bridge," scratched on copper, it is said, in the few minutes that Rembrandt waited for his friend, Mynheer Six, to appear . . . a remarkable example of the work of Rembrandt.

In his mastery of chiarascuro, playing shadowy blacks against whites, Rembrandt was unsurpassed. The etching above is the Flight into Egypt.

Rembrandt knew **the use of symbols, using a short-hand method which instantly conveyed meaning to the observer . . . note his symbol for foliage.**

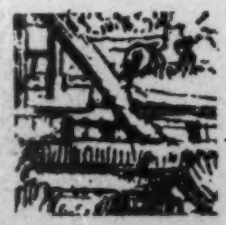
Rembrandt knew **how to focus interest.**

Rembrandt knew **the art of restraint . . . a few lines represent Boat by making the observers intellect play a part in the picture.**

He knew **the importance of a detail to bring out the character of a design passage.**

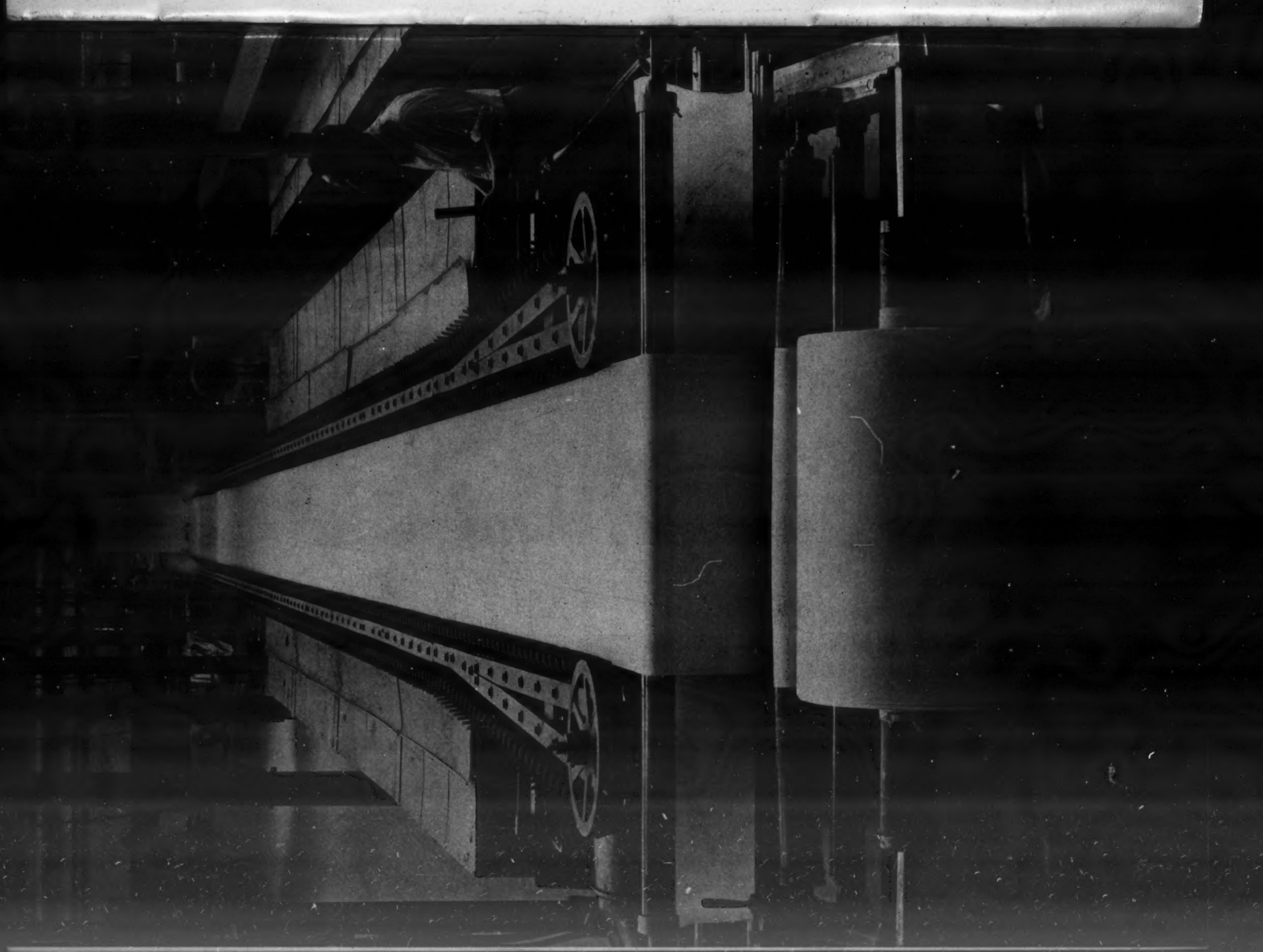
Rembrandt knew **spatial relationships between white areas and the linear area itself.**

He knew **the art of suggestion . . . a few lines suffice to let the reader know what he meant.**



Rembrandt knew **the value of change of pace in textures and design.**

Rembrandt knew **the importance of textures . . . study the enlargements reproduced here . . . see how they differ, each suggesting the essence and character of the object itself.**



WHAT GOES INTO A FABRIC FINISH . . .

American Fabrics takes you into one of the nation's large finishing plants to show . . . and thus explain . . . what is behind the technical terms of the processes that go into the finishes of American textiles.

Photos courtesy Bradford Dyeing Assn. U. S. A.

Here in the greige room cloths are unbaled, ends of each piece pulled out prior to being sewn.

The ends of the cloths are sewn together to make a continuous strip in readiness for first process.

Greige goods going through one of the washers containing a solution removing all dirt and impurities.

A mercerizing frame in action. Here the washed fabric is chemically treated to impart sheen and lustre.

These are the stainless steel cans which handle the drying process in the bleach house.

The Tenter Frames where goods are automatically brought to width and uniformly hot air-dried.

The continuous boil-off and scour operation takes place before the fabric goes to the dye pots.

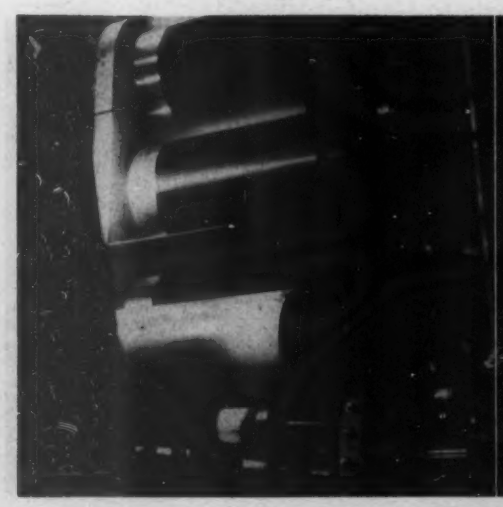
Operator keeps close watch over another section of the boil-off operation prior to dyeing.

The master dyer oversees the dye jig bath. Color sample must be perfectly matched before release.

A spun rayon fabric being put through the stainless steel dye vessel containing the selected dye.

The fadometer, a scientific instrument which tests fabric colors for fastness to sunlight.

Color matching under daylight lamps is an important step to ensure fidelity to the original.

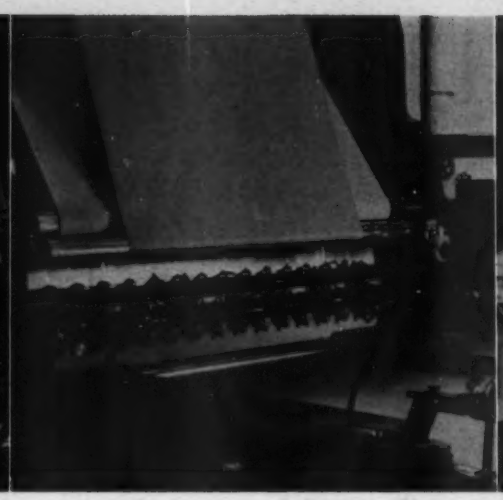


These cylinders are the type of stainless steel can dryers used in finishing acetate rayons.

Guiding metal fingers control uniformity of width in this nearly block long steaming frame.

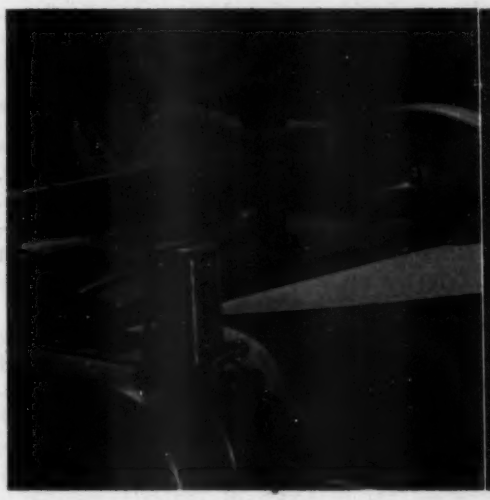
Calendering is an important step in the final finishing process of any type of fabric.

The Palmer finishing process is employed in various specialized finishes at the plant.

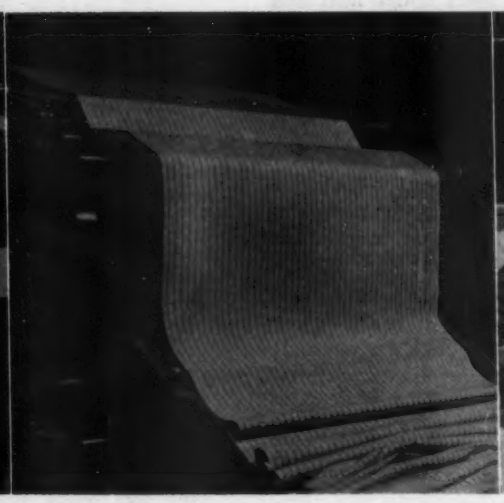


The Sanforizing machine is used to achieve a fixed minimum shrinkage in the finished cloth.

Managers compare reports on residual shrinkage. Some processes keep shrinkage at less than 2%.



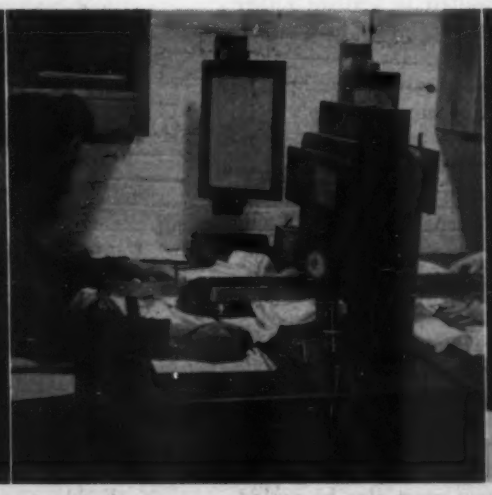
The Rigmel shrinking machine adds a lustrous finish to fine cottons for shirtings, dress fabrics.



Cloth leaving the Rigmel machine. The process aids in retaining richness of color and finish.

Final check-testing of Rigmel results aids in determining effectiveness of the process.

Testing standards are high in research laboratories, often pave the way to newer, better finishes.



Failure to pass this test may mean death. Here porosity is tested on parachute fabric.

Checking density of a cloth in one of the test laboratories. Science plays an important role.

THE CONSUMER

The millman, the converter, the apparel manufacturer, the retailer, the retail clerk . . . all throw at Mrs. Consumer words and phrases as selling blandishment . . . all assuming that she knows what they're talking about. Sadly enough, it's gibberish to her. And so writer Cora Carlyle gathers a group of typical

Q. The other day a man in the textile business said that there was such a thing as an unwoven textile material. I just couldn't believe him. Do you think he was serious when he made this remark?

A. Yes, he was serious and the statement is true. An unwoven textile cloth is made by combining textile fibers and thermoplastic binder fibers into a continuous sheet under heat and pressure. It is available in various thicknesses, plain or in combination with gauze or print cloths. It can be sized, waterproofed and flameproofed.

Q. What is there about chambray that makes it such a distinctive fabric for good wear?

A. Chambray, a good lightweight cotton, affords coolness and comfort to the wearer, is mercerized for luster and added strength, and Sanforized for shrinkage, less than one percent. Made of combed yarns for smoothness the color is woven into the fabric and is not printed on. In the so-called "solid color" chambray, the yarns running one way in the cloth are colored; the yarns in the other direction are white or lighter colored thereby giving the characteristic monotone effect.

A great favorite during the summer months, Chambray is closely woven to give high, firm texture and it needs no special finish to make it acceptable.

It is sun-resistant and "wash-happy" to make you happy. You will like it in casual dresses, and sports ensembles.

Q. What is the difference between vat dyed and yarn dyed?

A. "Vat dyed" means that a special kind of dyestuff has been used, called "vat dye." It can be applied to textiles either while they are in the fiber state, or to yarn prior to weaving or knitting, or to woven or knitted piece goods.

In the latter case it can be made into solid color or into print design. Vat dye is more expensive to buy and apply than some others, but it is well worth it because of its resistance to light, fading and to color loss from washing.

"Yarn dyed" means that the yarn was dyed before weaving or knitting into fabric. For example, in the case of a blue and white checked gingham, the blue yarns were dyed before the weaving of the material.

Q. Are raincoats water-repellent or water-proof?

A. It depends on the characteristics of the fabric used and on the construction of the coat. A waterproof raincoat is made of fabric with a sealed surface, through which no water and little air can penetrate. Further, in order for the coat to be completely waterproof, the seams of the coat must also be sealed so that water cannot leak in. These coats are protective against direct, hard rain but are likely to be rather uncomfortable to wear since body perspiration collects under them and cannot easily evaporate.

A water-repellent raincoat is made of a fabric whose threads are coated with chemicals which do not permit water to be absorbed. The tiny spaces, however, between the threads are left open so that air can circulate through. The body can "breathe" through a fabric of this sort. A water-repellent coat can be described as protective against showers, or rain "coming at an angle."

Q. Are finishes for the life of the fabric?

A. Pondering the answer for this one almost finished me; but it's an excellent question that requires much thought. Here goes. Some finishes will last for the life of the fabric! others will not. Some will last through several washings or dry cleanings — these are known in the trade as "durable." Some finishes must be renewed each time the fabric is washed or dry cleaned — these are called "renewable."

Consumers should look for the information on the label; this will reveal the type of finish that has been applied and what to expect from it. In addition, the label will give directions on how to care for the garment.

Q. Is American linen up to the standards of Irish linen?

A. The standards of proper cultivation and manufacture used to make Irish linen are very high and most difficult to tie, let alone beat. Some experts believe that it will be years, if ever, before American linen meets the challenge of the famed Irish product. Other experts, and folks that are keenly interested in the future of linen, believe that by the use of crease-resistant finishes and adaptation to lighter weight fabrics better suited to our use, we are placing on the market a very acceptable fabric at present.

Q. What are the advantages of tulle made of nylon over tulle made from other yarns?

A. Tulle is a diaphanous fabric naturally flammable if made of a combustible fiber, because of the spaces between the threads. Cases on record reveal evening dresses of tulle (other than nylon) which swept across a lighted cigarette stub and were at once ignited, with dire results to the wearer. Tulle hats, made of fibers other than nylon, have also quickly ignited.

Contrast this record with the mere fact that dresses and hats made of nylon tulle could not ignite. If a lighted match were held against nylon tulle, the material would merely melt. It would not ignite. Thus, one of the most exotic and decorative fabrics is now entirely safe for wear.

Further, nylon tulle holds its crispness and will not wilt in humid weather. It will not soil easily and when dry cleaned will retain its original beauty and appeal without shrinkage.

WANTS TO KNOW...

Mrs. Consumers from time to time . . . asks them what they'd like clarified in textile terms . . . and then fires the questions at Dr. George Linton. Here is the third batch. The moral is: Just because you know what you mean, don't take it for granted that the other person does.

Q. I find that I do not enjoy nylon stockings as well in the warmer weather. Is this imagination?

A. No, this is not imagination. Nylon, as yet, possesses little ability to absorb moisture; chances are this requisite may be attained in time since much research is being done on nylon by the DuPont Corporation. It may be stated that when nylon is worn next to the skin in warm weather that perspiration is not absorbed and evaporated into the outer air. The fabric then feels a bit uncomfortable.

Q. I have an organdy blouse with a "starchless" finish. I would like to have the blouse somewhat stiffer. Can this be done?

A. Ordinary starch can be added to a garment with a starchless finish, during each laundering, to suit your own taste.

The "starchless" finish will serve as a background "body-builder," and you can add starch until the desired stiffness is achieved. Probably a very small amount of starch will suffice.

Q. When I buy hosiery I note the word "gauge" printed on the top of the stocking. What does this really mean?

A. The word "gauge" will be accompanied by numbers such as 45, 51, etc. If the number is 45 this means that 45 loops per inch-and-a-half have been knitted into the circumference of the stocking. In terms of the loops or wales per inch take two-thirds of 45 or 30 to the inch.

If the gauge is 51, this means that there will be more loops per inch-and-a-half, a higher textured stocking. For slim legs a 45-gauge is adequate; for a full leg, a 51-gauge is likely desirable. We say likely, Cora, because there must also be present in this stocking enough "inches" to take care of the size of the underpinning which is to be accommodated.

Q. When my glazed chintz slip covers were washed, the glaze came off and the material became limp and unattractive. Should I have them dry cleaned or what?

A. The finish on the covers was obviously only a temporary one which would "wash-out" or "dry-clean-out" at the first cleansing. There are now well-known durable glazed chintz fabrics on the market, notably "Everglaze," which will retain their body or stiffness through many washings and dry cleanings. Also, the shrinkage of Everglaze fabrics is very small, thereby making it an ideal choice for slipcovers and garments.

The glaze or lustrous appearance may be slightly lessened after cleaning of any sort because the laundry or the dry cleaner cannot polish the fabric in the same manner as the original finisher of the goods. The body and stiffness, however, remain for the life of the fabric.

With reference to your chintz fabric, it would have lost its glaze and become limp even had you had it dry cleaned. There is nothing you may do to restore the original qualities of the fabric except to add starch to the rinse for stiffness and to use plenty of elbow grease in the ironing procedure, to bring out the polish. It will pay you to remember to buy a durable glaze finish the next time.

Q. Why is Egyptian cotton regarded as the finest to be found anywhere?

A. From the standpoint of quality, Sea Island cotton is the best in the world; its production, however, may be said to be negligible, hence the statement that Egyptian and Arizona cottons are the best is generally accepted in the trade.

Both cottons are noted for splendid staple length, fine fiber diameter, silken-like luster and high tensile strength. These cottons are used in the finest cottons produced here and abroad.

Q. What has happened to the heralded plastics?

A. What has happened? Well, the "wonders of plastics" are with us more and more every day! True, the growth is slower than some of the glowing, over-emphasized accounts from dreamy, more or less informed writers in the war years. But do not be misled . . . the growth is steady and healthy. Many present uses of plastics are not publicized at all; others we take for granted because they appear in an accustomed shape. You know how it is — "I can't find a metal so-and-so (take this in proper stride) but here's one in plastic!"

The industry has been beset by lack of raw materials, and other worries. It does need to find simple names for consumer understanding, and to develop label information for performance and care. If you want Epsom salts you do not ask for magnesium sulphate; have you ever noted the chemical names for many other household articles let alone trying to pronounce them? By and large, plastics are doing all right and are taking on added impetus all the time!

Q. As we come into a formal, elegant era, I would like to know what woolen fabrics are the more formal ones.

A. A timely question. Here are a few of the leaders:

Broadcloth:	A supple fabric with good draping qualities. The surface has been "polished" after raising the short nap so that an inviting, soft luster adds to its beauty.
Bouclé:	A fabric whose surface has tiny, curled loops. Ideal for coats and suits.
Cashmere:	A fine, very soft fabric made from the silken-like hair of the Cashmere goat; lovely to touch.
Crepe Delaine:	A dull-surfaced crepe material made of highly-twisted, long staple wool fibers.
Duvetyne:	The surface finish of this stunning material possesses a short, soft nap.
Velour:	A soft, smooth pile-effect surface features this rich, appealing velvety material.

SPECIALTY FIBERS

MAKE TREASURED FABRICS

Like a magic wand, rare specialty fibers open new and limitless possibilities in the blending of precious fabrics. This article is a condensed yet complete guide to a better knowledge of the specialty fibers . . . how they are processed, how they are blended and what they do when blended in combinations.

When you feel the softness of your cashmere sweater, or when you hear your wife boast about her mink cloth dress, then you might begin to appreciate what specialty fibers have done for the textile industry. Yes . . . specialty fibers bring a new and exciting note to the manufacture of fabrics.

But specialty fibers aren't new. They're as old as man himself. They go back to that momentous day when Pithecanthropus Erectus, snarlingly devouring the warm meat of his shaggy bear kill, discovered that the whole skin of the dead beast could give him warmth and protection agains the chill prehistoric winter. Maybe it was his son, or his son's son, who found that sheep could be captured and tamed and their wool sheared periodically. So began a way of life that still exists today in Tibet and Afghanistan, in Mongolia and in Siberia, and lands where primitive men don't spin or weave the wool, but cover themselves in vests and coats of sheepskin.

Man developed one of his first yarns from the long staple of sheep fleece, but his restless curiosity drove him to a discovery of other animal fibers which when blended with sheep wool produce startling and delightful effects in color, texture and luster.

Although the qualities which individual specialty fibers give to fabrics are quite different, the animal fibers themselves are in most cases similar. They grow in two principal coats. The outer is called the hair and is shiny and stiff. It overlaps and forms a protective shield around the animal's body against water, rain and snow. The undergrowth is called the fur. It is closer to the skin and is a soft shorter fiber which is much finer than the hair and acts as insulation against heat or cold.

Each fiber type has its place in the blending process depending on the ultimate effect desired. In some cases because of the scarcity of the fiber, the fabric developed becomes quite expensive. The world's total vicuna fleece production one year for example was 3,000 pounds. Compare this to the total wool production of more than 4,000,000,000 pounds in 1941.

Fabrics which contain specialty fibers are expensive not only because of the difficulty in obtaining the fiber, but also because of the elaborate processing involved. Some animals must be captured and killed. Many are allowed to live so that they may be periodically sheared. Others may be tamed, and bred for obtaining the pelt. Then the fur must be separated from the skin by cutting, and blown or dehaired. Some fibers from the various animals are blended for certain types of cloth. The fiber product might even have to be bleached and sometimes it is static-proofed.

Regardless of how the specialty fiber is obtained, unlimited combinations with wool are possible in the textile mills, since animals have fibers of varying colors, different degrees of fineness, luster and lengths of staple. Some producers of specialty fibers have created important blends with names protected by trademarks. An example of such a blend is Pampas Fur which is a mixture of South American animal fibers. In other cases, manufacturers are guided by the accent of the blend when labeling their products. Blown Pearl Gray Fur indicates a blend of soft fibers of a light gray color. The accent in this case is on softness and color. White Spiky Fur blend indicates a luster accent.

As in sheep wool, usually the lighter the color and the finer and

BY CORNELIUS SAVIN

Cornelius Savin, who is associated with one of the largest specialty fiber producers in the United States, S. Rosenfelder & Son, N. Y., is well equipped to discuss specialty fibers. Born in Bucharest, Roumania, and a graduate of the University of Bucharest, Mr. Savin also studied textiles in this country under the direction of Werner von Bergen at Columbia University.

LEXICON

OF

SPECIALTY FIBERS

LEXICON OF SPECIALTY FIBERS

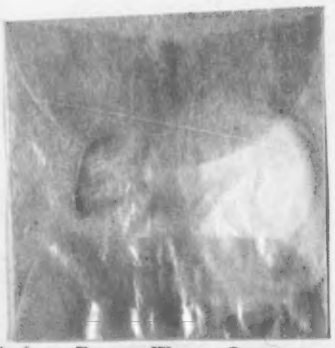
ALPACA . . . a smaller member of the South American camel family, it is able to live at altitudes above twelve thousand feet. Its colors are like the Llama's — white, black, fawn or gray. The fleece is very rich and silky with considerable luster. The Suri, a breed of Alpaca, has even finer and longer fleece which ultimately helps make a more luxurious fabric. In comparison to the Llama, all breeds of the Alpaca have fleece containing less coarse fibers, but possessing a higher tensile strength. The average fineness of the Alpaca fleece is 26.7 microns and the hair length varies from eight to 20 inches. It hangs over the body and flanks and often conceals the feet. Roughly six pounds of fleece are produced by the Alpaca every two years. It is domesticated. Although Alpaca farms exist, most animals are owned and bred by Indians. Arequipa, Peru, is the main collecting and sorting point for Alpaca wool.

ANGORA GOAT . . . the clipped fiber of the living animal is called mohair. It is used extensively in industries such as carpet, upholstery, curtain and automobile cloth. In the clothing industry, it is used in tropical worsteds. The animal is domesticated and originated in Turkey. It thrives elsewhere only in the Union of South Africa and the southwestern United States. Scoured mohair which appears smooth and white has a wide range of fineness varying from eleven to ninety microns. It is highly resilient and possesses considerable tensile strength and luster. Its luster, not its softness, determines its value. The price, depending on which of seven standard grades it might be, varies from 65¢ to $1.25 per lb. Mohair is also sold in Tops and Noils.

ANGORA RABBIT . . . a beautiful animal, this rodent has long, fluffy, white, silky hair. Indigenous to Turkey and Asia Minor, this animal acclimatizes itself to any region. Unlike the Hare and the Wild Rabbit, the Angora Rabbit is domesticated. It is clipped or combed every 3 or 4 months and the product which approximates 12-14 ounces a year is marketed. The fur fiber is one of the finest. It has an average micron count of 13. Price obtained depends on the quality of the fur and varies from $5 to $11 per pound. Despite United States competition and the clamor of American ranchers for protective tariffs, the cleanest and finest Angora Rabbit furs still come from France, Italy and Japan. It is used on a large scale by knitting mills. There is a considerable market for the yarn on a retail level. Sweaters, mittens, baby clothes, etc. are fashioned from 100% Angora fur dyed in various pastel colors, or sold in its pure natural white. It is also sold mixed in a certain percentage with very fine wool.

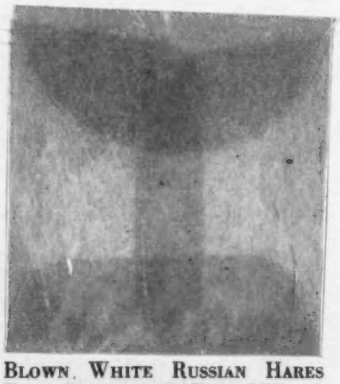
BEAVER . . . the largest amphibious member of the rodent family, it is found in Europe and America. Beaver fur, like Muskrat, is considered the best for felt hat manufacture. Coming from an animal which weighs about forty pounds, the fur has an average micron count of 15.8. It is soft and silky and lends itself to textile use. The hair is used by this industry only when certain shiny effects are desired in blends. Considerable demand exists for beaver pelts in the fur industry. They are plucked and sheared and because of the light belly portion, they appear to be striped. Canadian Beaver has a blue-brown fur fiber while other animals vary in shading from light brown to pale tawny. Unlike the early nineteenth century when the fur was used in the manufacture of beaver hats and the shiny, coarse guard hair left on the skin for ultimate use as stoles for priests and royal officials, today finds the pelt used in fur coats and in trimming fur and fabric garments. The wholesale price of an average good Beaver pelt for furriers is about $45 to $50. The price of Beaver fibers prepared for the textile trade is $20 per pound. This is due to the fact that for the latter industry only the Beaver pieces are used. They are pasted on paper and then cut as skins and blown.

CAMEL . . . this is the two humped, or Bactrian species of the Chinese and Mongolian deserts which is distinguished from the Dromedary or one hump type. It is the source of camel's hair fiber, a mixed wool type having a fine undercoat of about 17 microns and coarse beard fibers. The fibers are obtained by shearing and also by collecting the hair shed during the molting period. This hair is reddish brown or tan. Because of the beauty of the color, fabrics containing camel's hair are left in the natural



ANGORA RABBIT WOOL: Courtesy: R. Hahn, New York, N. Y.

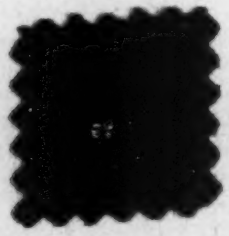
BLOWN GUANAQUITO FLEECE: Courtesy: Fur & Wool Mills, Inc., New York, N. Y.



BLOWN WHITE RUSSIAN HARES FUR: Courtesy: S. Rosenfelder & Son, Inc., New York, N. Y.

This fabric contains 85 percent Australian wool and 15 percent WHITE RABBIT FIBERS. A type of knit which proved to be very popular in the last decade. Yarn spun by: Falls Yarn Mills, Inc., Woonsocket, R. I. Courtesy: Security Mills, Inc., Newton, Mass.

This fabric, containing the rare fibers of the baby GUANACO, which is known as GUANAQUITO, is one of finest and softest materials used for the most luxurious coats. Courtesy: Forstmann Woolen Company, Passaic, New Jersey.



A worsted-type cross-dye fabric made of 91 percent virgin wool and 9 percent ALPACA. Weight 11½ to 12 ounces. It comes in a wide variety of patterns and colors. Courtesy: Deering Milliken & Co., Incorp., New York, N. Y.

state or dyed to a darker shade of brown. The fine fur fibers are woven as such, or blended with fine wool for overcoating, topcoating, sportswear and sports hosiery. The coarse hair is used in the manufacture of very strong transmission belts which will withstand dampness and oil. The price varies from $.60 to $2.25 per pound for the raw material. Camel Hair is also combed and sold in Tops and Noils.

CASHMERE GOAT . . . also known as the KASHMIR GOAT, a domesticated native of Tibet, China, Persia and Turkestan, this animal sheds during the spring. The hair is plucked either by hand or picked off the shrubs against which the animals rub. The natural color of the fibers is white, black, brown or gray. The diameter of the cashmere fur fiber averages about 15 microns. The beard hairs are extremely irregular, varying from 30 to 140 microns in diameter. As in the case of the camel's hair, the textile industry is interested only in the soft fibers. The separation of fine fibers from the long coarse hair is a very tedious and difficult operation. It is done in different ways, some of which require several successive steps. As in the case of camel hair, Cashmere is often combed and sold in Tops and Noils.

CHINCHILLA . . . a squirrel sized rodent found in the South American Andes, the chinchilla is renowned for its platinum-grey coat of ultra fine fibers. Decimated by hunters in the late nineteenth century, the animal is extremely valuable today. It is primarily coveted by furriers, but the price of the finished coats (about $25,000) precludes much selling. As a specialty fiber for fabrics the pieces of Chinchilla and its cousin Chinchillona are used in blends emphasizing pearl grey color combined with an almost unbelievable softness.

FOX . . . an animal well known in every part of the world. It varies in color from black, red, silver, cross, silver gray and white. Foxes are not only wild, but are also bred in various countries on an extensive scale. A few years ago Fox growers surprised the market with an entirely new hybrid animal of an unearthly platinum color which is called Platina Fox. Fox fur has an average micron diameter of 15.2 and is highly prized by furriers who use it for scarves, muffs, jackets, coats and trimmings. The fur is also used extensively to provide softness in wool blends for the textile industry. Its price for this use depends on the blend.

GUANACO . . . like the Alpaca, is related to the Llama, but is a larger and more graceful animal. A native of Southern Argentina, it is found not only wild, but also in a domesticated state. Guanaquito, the progeny of the Guanaco, produces the fleece of the most glorious natural honey beige color known to man. This inimitable color combines with a very soft handle, which is literally thrilling to the touch of the connoisseur. At the present time, the value of dehaired Guanaquito fleece at its best is $20 per pound. From this, one of the outstanding manufacturers in the United States has produced an exquisite fabric, the color of the legendary golden fleece, retailing at ninety dollars per yard. Coats made of this fabulous material retail up to five hundred dollars.

HARE OR JACKRABBIT . . . one of the well known animals in the United States, this rodent exists everywhere in the world except on the island of Madagascar. Its hair texture is wooly and of interest not only to the textile trade, but also to hatters and furriers. The Hare's clipped outer hairs when blended with wool before the fabric is spun give the finished goods an appearance of hairiness. When the fur fibers are used, the end fabric is soft handle. The wooly texture of the Hare's coat lends itself particularly well to felting. More than 50% of all fur fibers used in

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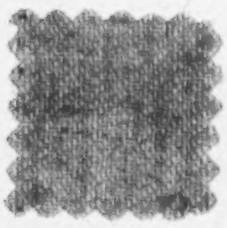
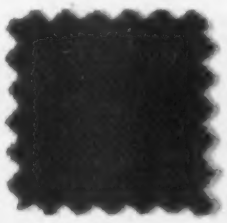
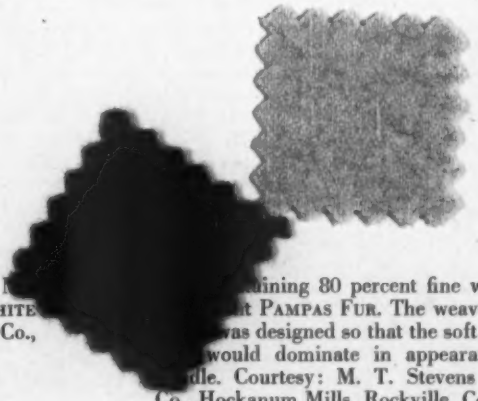


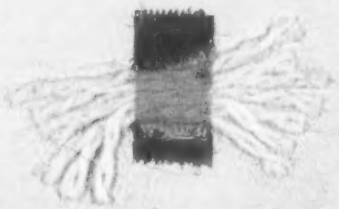
Mink cloth. Weight 8 to 9 ounces. This fabric contains 85 percent wool, 5 percent MINK FIBERS, and 10 percent other PRECIOUS FIBERS. Courtesy: American Woolen Co., Inc., Baltic Mills, Enfield, N. H.



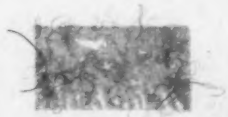
Knitted fabric containing fine combed
rino Australian wool blended with WHITE
RABBIT FUR. Courtesy: Newlands & Co.,
Ltd., Galt, Ontario, Canada.



ining 80 percent fine wool and
t PAMPAS FUR. The weave of this
as designed so that the soft PAMPAS
would dominate in appearance and
dle. Courtesy: M. T. Stevens & Sons
Co., Hockanum Mills, Rockville, Conn.



Yarn (2/8's) containing 30 percent Australian wool and 70 percent ANGORA RABBIT WOOL. Courtesy: Angora Woolen Products Cooperative, Malta, Montana.



This fabric, a blend of wool, ALPACA and MOHAIR is a knitted coating produced on a circular knitting machine. It is finished with the same equipment and processing methods employed on woven materials. Courtesy: Continental Mills, Inc., Phila.

Yarn (2/20's) containing 70 percent Australian wool and 30 percent CAMEL HAIR. Courtesy: Rochambeau Worsted Co., Providence, R. I.

woolen clothing are selected from the Hare, the Angora Rabbit and the plain Rabbit. The price range of the fiber is from $4 to $10 depending on its length, fineness and color.

HUARIZO . . . see Llama.

LAMA . . . the largest of the South American camelidae, it weighs about 250 pounds. It is used as a beast of burden because of its sure-footedness in the mountain areas. Its long fibers have an average diameter of 27 microns and vary in color from white to brown to black. They are uniform in diameter and length. Llama fleece is obtained by shearing in early December, a warm month in the southern hemisphere. Owned almost exclusively by Indians, the fleece is either woven by them or sold to factors who make it available to the textile industry for use in woolens and hair fiber materials which have an impressive luster, warmth and lightweight. The price of the unscoured fiber is then $1 per pound. Hybrid members of the Llama family are Huarizo (Llama father and Alpaca mother) and the Misti (Alpaca father and Llama mother.) Both have fleece which can be processed into fine fabrics.

MINK . . . see Weasel family.

MISTI . . . see Llama.

USKRAT . . . an aquatic rodent of North America which has never been domesticated, this animal is valued for its thick blue gray brownish fur which resembles the beaver's. The fur fibers are extremely fine and have an average micron count of 11.7. Used primarily by the fur industry, muskrat furs provide the very fine fibers for various textile blends emphasizing a deep softness in the ultimate fabric. The price of the fiber is approximately $3 per lb. The wholesale price of skins is $2 per skin. For the textile industry the Muskrat pieces are collected and dissolved in such a way, that the leather is destroyed, and the fur released and almost unaffected by the chemical process necessary to destroy the skin.

UTRIA . . . a native of South America, this aquatic rodent has a beautiful silky fine belly undergrowth which is unlike other similar animals because the Nutria dwells in streams that are colder than the atmosphere. Remaining in shallow portions, its back is exposed to the air and does not require the fur protection demanded by the stomach. The bellies after the guard hairs are removed are used by furriers. The textile industry also uses Nutria fur fibers in blends emphasizing softness. Nutria sells at $5 per pound for the textile industry.

POSSUM . . . the only marsupial outside of Australia, this beast thrives in Australia, the southern U. S. and is found as far south as Argentina. It is about cat size, has a white face and fur that is loose, grayish and white tipped. The pelting is used chiefly as trimming for cloth coats. In textile fabrics, the hair is separated from the undergrowth and only the latter used. The price of the fur for textile blends varies from $2 to $10 per pound. Australia and New Zealand are by far the biggest producers of Opossum.

ABBIT OR CONEY . . . A small rodent, this animal is of the same genus as the hare. It is enormously prolific and its fur, together with that of the hare, forms the backbone of the felt hat industry. Under the name of "Lapin," the sheared pelts dyed in innumerable shades are widely used for coats and trimmings. There are wild and tame rabbits. The wild rabbits are with very few exceptions of a brownish-grey color. Australia is by far the largest producer of wild rabbit skins. Tame rabbits are being raised all over the world, and they run in colors from white to black. A large part of tame rabbit skins are being used to produce one of the most popular specialty fibers. The guard hairs have an average thickness of 90 microns while the average fineness of the fur varies from 11 to 15 microns. The quality of the fur and hair depends on the season, geographical location and the age of the animal. Rabbit fibers, both the soft fibers and the hairs, are used in the manufacture of varieties of textile blends. Where the accent is on softness of touch, only the undergrowth is used. Where the fabric is to have a shiny effect, the guard hairs, or both the fur and the guard hairs, are used. Pricing depends on the fineness and the color with the lighter hues being more expensive. The price for skins for furriers varies from $.20 to $1 per piece, while a pound of cut and blown Rabbit Fur for the textile industry varies from $3 to $10. In this case the entire skins are prepared and the cut fur is blown.

ACCOON . . . a native American. It is grayish brown in color with a characteristic black and white face and ringed tail. Its pelt is used as trimmings for cloth and fur coats. For sportswear, the pelts are "let out" in long stripes to give the coat an elongated appearance. For textile purposes, only the wooly fur fiber which has an average micron count of 15.3 is used. Price of the dehaired fur fiber is from $1.50 to $4, depending upon its fineness.

SURI . . . see Alpaca.

ICUNA . . . like the guanaco, it is a member of the Llama family. It is the smallest and the wildest. Living at heights above 16,000 feet it must be killed to obtain the fleece. Its fleece is reddish brown shading to white on the belly. The amount of coarse hair is negligible with the exception of the breast part which consists of long white beard hairs in the shape of an apron. One of the finest fibers in the world, the vicuna fiber has an average diameter of 13.5 microns. Since 1921, the Peruvian government has protected the vicuna by rigorous conservation measures. The textile industry uses the fibers to manufacture the softest coat cloth in the world.

EASEL FAMILY . . . about 175 species are in existence. They have a long cylindrical body and walk on their toes, not on the soles of their feet. Some species are well known, the mink and the ermine for example are ferocious and bloodthirsty animals. Larger than these two and of stouter build is the Wolverine which is found in Europe, Asia and America. Other members with valuable fur are the Marten and the Sable. Still another group includes the Badger. The fur industry uses nearly all the species of the Weasel family in making coats, trimmings, capes, etc. The textile industry uses large amounts of their fine fibers, but only those with names that will add to the dignity and glamour of the fabrics. The accent is on luxury. The price for the fiber blends is based on the blend and the color. It varies from $3 to $6.

Cross Section of Muskrat Fur (magnified 1,000 times) showing coarse guard hairs and fine undergrowth. By courtesy of Calco Chemical Division, American Cyanamid Co.

Specialty Fibers (continued)

longer the staple of the specialty fibers, the more expensive it will be. Chief exception to this rule is vicuna, which is cinnamon brown. Because of the beauty of the color, this fiber is most frequently woven in its original shade. The rather dark color of vicuna does not prevent it from being woven into fabrics from which coats valued at more than $1,000 are tailored.

In some instances the luster of the specialty fiber plays the most important part in the finished fabric. This is when a glint or novelty effect is desired on the fabric surface.

Certain animals such as the guanaco and rabbit have the fine undergrowth of their fleece used in its entirety. However, there are some animals . . . the mink, muskrat and beaver . . . whose fibers are not used for the sole and ultimate purpose of blending with wool for textile use. The mink blend for example would be prohibitive in cost if the complete raw skin were to be cut and its fibers used in textile blends. This kind of peltry is used mainly by furriers and only the trimmings or portions of the skins which are not processed by them are diverted to the textile trade.

Specialty fibers have more than ever come into their own in recent years. Man is extremely conscious of his clothes and their fabrics. Specialty fibers such as camel hair, cashmere, guanaco and vicuna give decided appeal to a fabric, but they reach their peak of desirability in the development of fabrics for women who cherish expensive and attractive apparel.

Besides adding softness or luster to fabrics, specialty fibers in many cases also have the glamour of being very rare. Important too is their ability to add warmth to the fabric without the discomfort and inconvenience of added weight. Because of these two significant features, women have been intrigued . . .

No more are jewelry and furs alone symbols of luxury. Today, fabrics containing the rarer specialty fibers have the distinction of completing this exciting triumvirate.

From Skin To Fiber . . . Highlights in Specialty Fur Fiber Processing

KILLING AND SKINNING . . . The animal is either raised in captivity or captured when wild. It is then killed and skinned.

DRYING . . . The pelts are dried by exposure to air. Then they are baled and sold to large scale purchasers in the textile and hatter markets. The price obtained depends on the season in which the animals are killed. If trapped in the summer, the animals' fur is meager. If in winter, it is luxuriant. Price is also subject to such variables as the region where the animal was caught, its age and size and the color of its fur.

DRUMMING . . . The skins are drummed by the purchaser with wet sawdust until they become pliable and easy to handle.

CLIPPING OR SHEARING . . . The skins are clipped or sheared so that the guard hairs are cut away as close as possible to the soft short undergrowth.

PLUCKING . . . If the guard hairs are to be removed in their entirety, the skins are put through another process called plucking, in which special machines extract the hair from the root and leave only the undergrowth on the skin.

REMOVING THE FIBERS FROM THE SKIN . . . The fibers must be removed from the skin. This is done by a special cutting machine which does not shear the fur fiber from the skin, but paradoxical as it may sound, it shreds the skin from the fibers. Once the fibers are cut off, the shredded skins are sold as a by-product for glue making.

Type of American Blower used to separate coarse hair from fine fur. Six section machine. Courtesy of Turner, Danbury, Conn.

SEPARATING THE FINE FUR UNDERGROWTH FROM THE REMAINING GUARD HAIRS . . . After cutting, the remaining guard hairs and the fine undergrowth must be separated. This is done in blowing machines which enlist the aid of gravity. When blown in enclosed compartments, the guard hair, being heavier, drops to the bottom of the blowing machine and the fur is transported to the second compartment where the process is repeated. This is done several times in a continuous operation so that the ultimate product is a very fine fur containing a minimum of coarse hair. Sometimes this dehairing treatment is very difficult as in the case of cashmere. The coarse hair which accumulates at the bottom of the blowing machine is known to the trade as droppings. It is packed separately and often is used to give certain shiny and lustrous effects when blended with wool.

STATIC-PROOFING . . . The clean fine fur obtained by plucking or shearing, cutting and blowing works to best advantage after it is static-proofed. This is the process of minimizing the flying of fine fibers in the air which will occur in the blending and carding process in the mill. After it is static-proofed, the fine fur is packed in the standard unit of delivery, five pound bags, and sent to the textile mill. Arriving there, it is blended with wool before being spun into yarn.

Men's Evening Fashions Begin With The Fabric

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Ten correct evening outfits showing every possible "Black tie" combination: 1 *Formal town*: d. b. blue overcoat with s. b. jacket; white muffler; opera hat; light gloves. 2. *Town & Country*: d. b. midnight blue jacket; patent oxfords; narrow square end tie. 3. *Summer*: d. b. tropical worsted; camel's hair polo coat; sennit straw. 4. *Stag*: s. b. shawl collar jacket with cummerbund and butterfly tie. 5. *Southern*: s. b. white jacket; black trousers; butterfly tie. 6. *Country Club*: d. b. satin shawl collared jacket with small square end satin tie. 7. *At Home*: d. b. velvet dinner jacket in wine or blue; patent leather slippers; black trousers. 8. *Summer*: d. b. white shawl collared jacket with midnight blue trousers; dark straw with white puggaree; pointed tie. 9. *In town*: s. b. one button peak lapel jacket with ribbed lapels; backless black ribbed waistcoat; English butterfly tie; clove red carnation. 10. *In town*: s. b. jacket worn with s. b. blue cheviot overcoat; wing collar; butterfly tie; Homburg hat; light gloves.

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Compiled by Fashion Staff of Men's Reporter

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CAN BRITAIN DELIVER THE GOODS?

To Britons contemplating the floods swirling through their streets and lanes last Spring . . . the second of uneasy Peace . . . it was more than hard times. This was sheer misery redundant; numbing disaster that piled itself on the still raw memory of Dunkirk, the Blitzes and Winter's empty coal wagons on railway sidings that had turned off the lights and brought the creaking machine of recovery to a grinding stop.

Yet as the rest of the world was in the act of pursing its lips in pity, Britons could . . . and did . . . release a vital statistic. Exports for last year (1946) were 11% better than for 1938. Too, even as the whole is equal to the sum of its parts, vaunted British woolens had proved an important buttress in this triumph of the Austerity Program. Grimly, and with a kind of blind faith that has only contempt for the impossible, the goal for '47 — a goal which was not reached — was fixed at a 40% increase. For as every Briton is traditionally aware, it is an open and shut case of export or die. From factory bulletin board and bill board, his government ceaselessly exhorts him . . . "Extra Effort Now Means Better Living Sooner." Above all, the setting of his table tells him as nothing else that he has not yet settled his personal score with a dead man, once called Hitler.

Optimism in Spite of Competition

Against such a background, the return of British woolens to our markets must be evaluated . . . after five years of war and, for the British, seven lean years. Has their absence made the American heart grow all the fonder? Or has American technological skill closed the gap between domestic and imported clothes?

There is no simple answer at this time of tumultuous postwar reorientation. You cannot poll the man on the street and come up with a conclusion so definite that you can steer by it. At the upper price bracket, the consumer is somewhat Anglophile. At the medium price level, the odds again favor the British . . . if only psychologically. At the mention of *Harris Tweed* or *West of England Covert*, the average man's eyes will pop. And yet, when asked, he will not be able to give you six good reasons why. All of which is its own tribute to British shrewdness and the power of advertising.

Nevertheless, a new factor remains to be reckoned with here. That is the impact of the hundreds of thousands of G.I.'s who saw Britain at first hand . . . discovered that the average British male bears little or no resemblance to the faultless fashion plates of our press. And who also saw that their own uniforms were remarkably superior to any of their allies'. Wars have a habit of leaving drastic change in their wake. The British legend may prove a casualty of World War II, just as the Bond Street starched linen collar vanished after a short struggle for survival following World War I.

At the mill level opinions pro and con are just what you would expect, in direct proportion to the nationalities involved. The British are supremely confident. They point to their cloths as their finest argument. And if production is hardly what was hoped for, there's cold comfort in the steadiness of demand. Further, they plead that prewar imports of British woolens amounted to not more than 2% of American production . . . not enough to present any drastic threat to our textile economy. And when they look to the future, they do not paint it dim and hazy around the edges, despite today's shadows. They are ambitious. They dream of some day raising that 2% by, say another ½%. The corresponding 25% production increase that this would represent would spell prosperity for the tight little isle's woolen mills. And they have plans to make their dream come true. For while they openly envy us our automatic looms and production capacity . . . they intend to follow our lead in this direction as they modernize and replace equipment over the years. They look to a successful grafting of our amazing production techniques onto their own centuries-old methods that lend lustre to the term, "imported from Britain."

Naturally, to the American woolen industry that 2% import is a bone of contention. For while it is no sword of Damocles that the tariff-lobbyists would have you believe, it is the all-important 2% around which prestige and leadership revolves. Leading American mills are rightfully proud that their product sells side by side with the imported in our better shops. They will ask you pointedly if there was more than a polite murmur of regret . . . confined to a segment of top-bracket consumers . . . at the gradual disappearance of British woolens throughout the war. Too, there is no questioning the basic, continuous improvement in our product. In medium priced fabrics, particularly, America has learned how to coax style into its weaving. A good-looking chalk stripe, pin stripe, Glenurquhart, houndstooth or novelty tweed mixture is no longer a mystery to our robot looms. Cloth for cloth at competing price levels, few consumers or manufacturers can distinguish between domestic and imported by the "hand" . . . a telling fact that our mill owners are not loathe to remind you of with sparks in their eyes.

Retailers Widen the Gap

Speak to American merchants . . . and you get not only a different picture but one which indicates that the first stumbling block in the path of fine American mills seeking to establish their products on a par with British imports . . . is the American merchant!

The manager of a men's custom tailoring shop on Madison Avenue says, "British fabrics? The Queen Mary isn't fast enough to bring them over here. To stay in business during the war we had to fill in with domestic goods. Oh, yes; you can get a fine worsted or flannel over here . . . but, frankly, not up to snuff with the British. American goods shrink too much in the sponging. You can't get the finish of British goods; it's the water over there, you know." (*We'd like to lay some British and American blankets side by side, sans labels, and defy that merchant to distinguish between them.*)

The president of a top-notch ready-to-wear outfitter says, "We're replenishing our British stocks as rapidly as possible. I think American fine worsteds are excellent, but you can't match the British. I can buy an individuality in British fabrics that I can't over here. My English sources will take a thousand yards of cloth and dye every two hundred yards a muted shade of the original; over here, to keep costs down, they run the thousand yards through one dyebath . . . period." (*Costs? and who pays for this gentleman's trips to England and the cost of bringing his British purchases to New York?*)

The president of a shop catering to style-conscious-medium-income-customers says, "American mills have missed the boat for my money. The man on the street doesn't know their names or have any strong feeling about them. People don't know the British mills, either, but how they've been sold the idea that *any* English cloth is worth its weight in gold!" (*There's a point for our American mills to mull over.*)

President, Eastern Ready-To-Wear Chain, Noted For Its Leadership In The Field: "Having done business with the British for over a quarter-century personally, I'm naturally sympathetic toward them. I have many personal friends abroad. But as for resuming business on a prewar basis that is a fundamental question of price — value translated in ultimate terms to my 'boss,' the consumer. For all the changes that follow a war, I believe the word 'Imported' will still prove the knockout catch phrase. We sell the idea that high style and good taste know no pocketbook here. Our customers like to feel they pay no penalties because they pay a modest price. And the aura of 'British woolens' ties right into this. Over here, at least before, the war men bragged about the English cloth in their suits just as over there they brag about American Nylons and coffee. Call our love of British goods a hangover from Colonial days if you will. And you mightn't be far off at that. Certainly, we retailers have spent a lot of promotional energy building up the British product. For years we had to. Our stuff just could not match up with the imported. Even today their finest still seems to be tops. There's something about their water and over-all climate that is conducive to surpassing excellence in woolens. And at the mill end of the operation, we just haven't the patience or craftsmanship. Our goal has always been mass production. And nobody can touch us at that game. So what? Let the British have their top woolens. That's all to the good for the custom trade . . . for the few to whom price is no object. But those people don't mean a thing when you talk about the American market. My customers are an excellent cross-section of the American market. And the domestic cloths I sell them today are a very good product for the money. So from that standpoint, it wouldn't make a whit of difference to America if all the British looms disappeared beneath the ocean. Thus you can see as far as I'm concerned, it all boils down to price. It will depend on how hungry the British get for our dollars. And from what you read in the papers and get first hand from over there, they're mighty hungry. Just look what a drop in the bucket the loan turned out to be!"

* * *

In substance, the situation apparently is one in which American mills are worrying far too much about their overseas competition when there is yet plenty of fence-mending to be done at home.

Since the total imports of woolens and worsteds from England amount to somewhere around 2% of our total consumption, then obviously the problem of fighting against this competition belongs on the shoulders of those fine American mills which make fabrics similar what Britain is sending over here. If our fine fabrics can compete in quality and price; if our American mills can cope with the demand for British-type service . . . all well and good, and our mills should make it a point to get these facts known to American merchants.

REPORT FROM TOKYO

Developments in Japan's newly reorganized textile industry under the guidance of SCAP offers opportunities to American users of fabrics and fibers

TOKYO. — Virtually forced from the hosiery field by the competition of synthetics, members of the Japanese silk industry believe that the significant phase of their future lies in the export of fine apparel fabrics, Japanese-woven, designed and finished. The keyword must be *quality*, since it can no longer be *price*. The extent to which the export markets for Japanese silks may be developed will depend largely on the improvement of designing techniques in this country.

The Japanese have indicated an understandably willing desire for outside guidance, which opens a field for American purchasers who may desire to have Japanese mills produce for them under their direct technical guidance. When limited free trade is permitted under the system presently contemplated, the buyers who come over here should be qualified to the extent that they will be able to explain to the Japanese just what the American market wants. Thus the Japanese trade will get the necessary "feeling" to do a modern job, and will become more valuable suppliers of fabric to their customers.

Since the end of the war, the Japanese silk weaving industry has been practically at a standstill. In September 1945, one of the first directives issued by the Supreme Commander froze all silk and silk products in the country. All newly-reeled silk thereafter was automatically frozen, and weavers could no longer continue to use raw silk or twisted yarns. Only exceptions were specific releases of silk by SCAP to the Japanese for industrial and specialized consumer uses or to fill the needs of the occupation forces.

The Japanese Government was then instructed to examine the 133 million yards of assorted fabrics thus frozen; to reinspect, assemble, inventory and classify the fabric; and to make up sample books to be distributed by SCAP to potential purchasing countries. These sample books contain practically all the information a buyer could glean from examination, with fabrics classified as light, medium or dark, and the reasons for this grading, so that an examination in the United States is not necessary.

Due to the numerous difficulties involved in inventorying these widely-scattered stocks, the Japanese Government is only now approaching completion of this project. The stock could provide about 25 or 30 million yards of standard and fancy fabrics desirable for the American market, the remaining 100 million yards being narrow-width or coarse fabric more suitable for sale to Pacific countries accustomed to these types.

Also nearing completion is the export weaving program, authorized by SCAP in Spring 1946, designed to utilize 55,000 opened domestic-sized bales of raw silk, which are about half the size of export bales. It was specified that the fabrics be prepared for export in the greige state, as the dyeing and finishing industry cannot at present meet the exacting demands required for finishes. It was also required that the fabrics be woven 36 inches wide in pieces 80 to 100 yards or longer, primarily for the economy this length affords the dyer and finisher, and the cut-up and ready-to-wear trades. The fabrics are largely concentrated in standard popular construction which SCAP officials considered would find a ready market in the United States: crepes, taffetas, habutae, satins, fuji silk, lining fabrics, tie silk, and a small percentage of novelty weaves.

* * *

This 55,000-bale program is expected to provide about 20-25 million yards of exportable fabrics. Within the last few months, the first production has been inventoried and inspected, and sample books made up. This is only a minor program intended to use up a small scattered floating stock of open bales, aimed primarily at the American market. However, sample books are sent to all potential buyers with dollars to exchange, since all sales are based on Japan's need for American dollars to repay the cost of the Occupation and to trade for raw materials.

Early this year, SCAP further released for weaving all silk yarns which were in process at the time of the freezing — all yarns on warp beams, on the looms, or partially in process in other forms.

It has been SCAP's policy so far that exports of raw silk, Japan's pre-war peak product, should be of the highest grades which would bring the highest dollar return and which would also be more desirable for knitters and weavers in the States. Grades A, AA, AAA and Special AAA will therefore continue to be exported as raw silk. However, SCAP officials are prepared to release silk between B and E grades for weaving export fabrics when the demand develops, as it is expected to. If the demand develops for very fine fabrics, it is not inconceivable that SCAP will release the highest grades of silk for a profitable return.

Raw Silk Production Going Up

It is therefore with optimism that the Japanese industry, with its first two fabric export programs nearing completion, looks forward to developing its silk fabric field. Production has been only about 2 million yards a month for the last 15 months, but could double or triple with ease upon demand.

Japanese raw silk production has been on the upswing, from about 2,000 bales in January 1946, to almost 11,000 in March 1947. The industry enjoys top priority on electric power, and if coal deliveries are adequate, production should remain at that level. Sufficient labor has been recruited, and the reeling workers are becoming more skilled, with the result that raw silk quality, also, is improving as production increases.

The Japanese believe that, since the place of silk in the future is in the field of fabrics rather than hosiery, the greatest obstacle to their success is their past reputation for failure to keep up with fashion trends and designs. For too long they had been copying Western designs, always a season or two behind the market. In order to make post-war fabrics salable in the high-price markets such as American apparel fields, they have come to realize they must put originality in the modern manner into their fabric designs, weaves and finishes.

First step in this attempt to strike out on their own was a nation-wide fabric design contest sponsored by the Board of Trade (Boeki Cho) of the Ministry of Commerce and Industry, which is Japan's official Import-Export agency set up under SCAP direction. The prize-winning designs, which numbered about 100, were made up into sets of hand-painted books to be distributed to England, France, Australia, United States, India, etc., as examples of what the Japanese can do. These countries can also order direct from the books the designs to be applied to whatever fabrics the buyers want. (One volume was shipped to AMERICAN FABRICS and is now on inspection at our office. The Editors.)

Necessity for Re-orientation

Japan has never designed for export as have France, England and the United States. Compared to the very best specialty products offered by these countries, the resultant contest designs are third-rate, but they represent a very definite step forward for the Japanese. The Japanese have all the designers any nation could want. Their ingenuity must be developed. For too long, designers have been so suppressed by medieval conventionality that now they cannot achieve freedom of thought and imagination overnight. For a time, technical guidance by American buyers skilled in design may be feasible to obtain from the Japanese the highest quality goods which they are capable of producing. SCAP lacks the personnel necessary to work on specialty fabrics.

There are far-seeing Japanese in the industry who have expressed a desire to send representatives to America to get the feeling of American apparel design — not to *copy* American designs, but to be able to translate their own traditional, and unique, designs into terms which will be appreciated by the American buyer. These students, upon return to a Japan now only several air hours from the American textile world, could keep the Japanese industry up-to-date at all times in fabric design and finish. But these are long-range plans as yet.

The Japanese textile industry has been revised so that fabric will show improvement above pre-war standards within two years, if the Japanese are supervised. Starting from the mulberry and the cocoon, they have inaugurated a program of sericultural and production research which will show results in three or four years. Labor is becoming more and more skilled as the industry revives. Reforms were made under SCAP direction: export laws were revised to guard the customer; inspection houses were set up for inspecting every item exported; revisions were also ordered in civil service laws, so that the men employed are qualified in the textile field rather than in politics.

The Japanese can produce what the American market is desirous of having, but it will be a slow gradual development, the success of which will determine Japan's place in the world fabric market. Should the Japanese give up in the up-hill fight to achieve a place for their fabrics, and slide back into their old way of doing things, it will have just the directly opposite effect of restricting their export market to the low-price countries.

This, in turn, would defeat American interests in the Occupation. It must be impressed upon the trade that SCAP is not desirous of rebuilding the textile industy of Japan so that it will become a detriment to western producers. SCAP is primarily interested in seeing industry here develop, to become as self-sufficient as possible without becoming a dangerous competitor.

There need be no fear of "dumping." Since sales will continue to be handled through U. S. Government channels, which will presumably continue the policy of determining prices on a parity with those prevailing in the United States, there will be no fear of underselling American fabrics. Fundamentally, labor costs in Japan have risen about 50 per cent above pre-war wages; there is also a high duty to consider. Japanese fabrics will have to compete with American on the basis of quality, and in time they may indeed be able to compete with the American market as far as quality is concerned.

Variety Will Be Restricted

Since firm buyer-to-seller transactions are impossible under SCAP's present setup, the variety of fabrics offered in the immediate future will of necessity have to be restricted to those which sell in the largest volume. Because of the technical difficulties in finding a market for finished apparel fabrics, and because of personnel shortages, SCAP has been able to do very little exploitation of fabric markets so far. As an initial start, the 133 million backlog, and the new 55,000-bale project results, should be available to buyers in the near future.

Buying of finished fabrics, however, will have to be done largely against samples, and the Japanese will weave to order. The time factor is somewhat extended by this setup, but once the ground is broken there should be a steady flow of fabrics for export. With limited free trade permitted, the American buyers coming could cut down the time lag considerably.

If Japanese silk fabric is to reach the woman on the street, the industry must not only recondition its equipment, solve its shortage problems and improve its product. It must also overcome factors somewhat beyond its control. At present there is no exchange rate as a stable basis for selling on the world markets. There is also the very real prejudice against Japanese goods, not so much on the part of the manufacturer and merchant, as in the minds of the general public. Manufacturers seem willing to buy Japanese essential goods if they are suitable in price and quality.

With manufacturers and merchants, however, there is the remembrance that pre-war Japanese goods, when delivered, were often found inferior to the sample. It is therefore imperative that the Japanese Government insure that high quality is maintained in the future when the industry is no longer under careful surveillance as at present.

Quality is their only way out of a difficult situation.

— Helen V. Wesson

microcosmos

an unexplored world

The artist, whether he works with brush or camera, sees far more than the untrained layman. Color, line, composition fall into orderly place before his eyes . . . where exists only a vague impression for others. And yet with all the inherent or developed awareness which contributes to the artist's efficiency, there is still another cosmos, infinitely more fantastic in pattern and color to be seen through the scientist's microscope.

For most of us inspiration springs from what we see; and in the world viewed by the scientist lies a bottomless mine of ideas which can be tapped for art-in-industry. Spend a few minutes with Mr. Philip O. Gravelle, F.R.P.S., probing this hidden world; view it through his microscope . . . and this is what you see:

A setting pulsating with the rich bold colors of the spectrum is characteristically a phenomenon of chemical molecular growth. A seemingly drab slide is set in place . . . magnified to the 75th power . . . flooded with polarized light . . . and under the impact of applied heat, before your eyes streams a fascinating, breathtakingly beautiful and constantly changing array of design ideas.

No magnified crystal ever looks identically like another, even though it might retain certain characteristics common to its group. In fact, no organism can re-create its own design at will. This continual changing in form, line and arrangement in molecular crystal growth is one reason why Gravelle is fascinated by his studies . . . and why he foresees such broad possibilities in highly original design.

Gravelle has selected for this A. F. issue a handful of crystal studies, merely to indicate the originality and the scope which lie under his microscope. He states frankly that these are but a thimbleful taken from an ocean. But we believe that visionary designers and producers will agree with Gravelle that here is indeed an untapped source of inspiration . . . and one which can lend a fresh note to the designs of the future.

Crystals of quinate of quinine under polarized light are seen in the pattern shown above.

These miraculous butterflys are highly magnified crystals of naphthalene.

Not a Paul Klee abstract but crystals of an organic complex under polarized light.

Like a gay summer print design — crystals of malonic acid and salicyladoxime highly magnified.

A fantastic unexplored world made up of crystals of chloronaphthalenes.

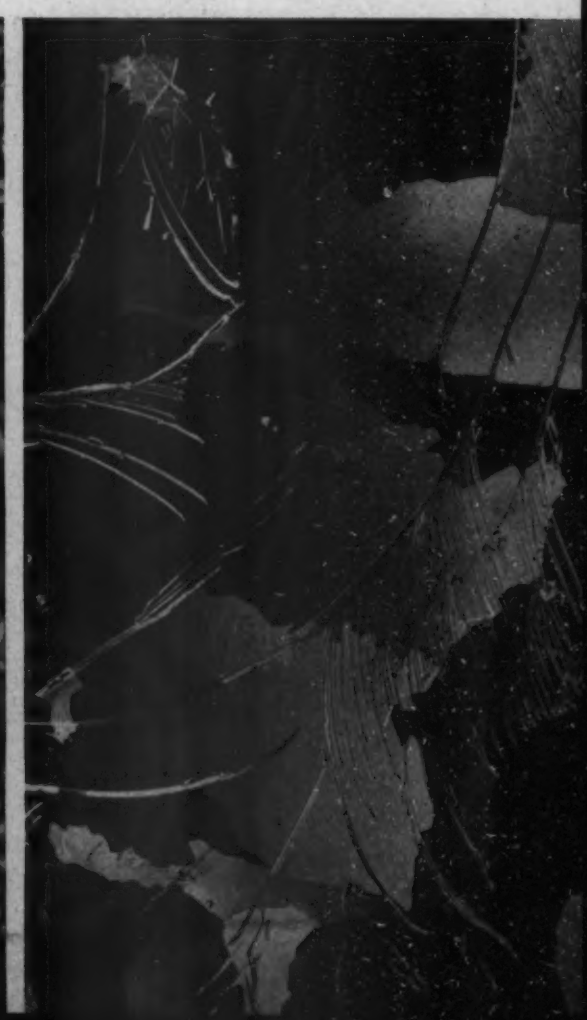
One of nature's symmetrically beautiful designs . . . crystals in a plant under polarized light.

From quinidine and adepic acid under polarized light emerged this elegant fantasy.

Crystals of an organic complex, para-hydroxybenzoic acid and chloromaphalene.

Crystals of ethyl gallate: a flawless design emerges from nature's unexplored domain.

No, not leaves — para-hydroxybenzoic acid, salicyladoxime under polarized light.



Storied tapestries decorated the walls of mediaeval chambers. It was thought that many of the tapestry designers of the period were influenced by the stage sets (see small cut at left) which were designed for religious mystery plays.

THE STORY OF THE TROJAN WAR

As it has been told

through the Ages in Paintings, Textiles

and in Mediaeval Tapestries

THE history of the Trojan War is one of the oldest and most magnificently illustrated of the tales which have been told in textiles through thousands of years. According to Homer, Helen of Troy began to weave it while it was still happening. The Iliad describes her as "weaving a great purple web of double fold, and embroidering thereon many battles of horse-taming Trojans and mail-clad Achaians that they had endured for her sake."

Today it is impossible to tell exactly what Homer meant by the term which is translated as either "tapestry" or "embroidery." However, the oldest surving textiles picturing the Trojan War are the great tapestries made in the Middle Ages, more than two thousand years after Homer's time.

* * *

The artists who made these hangings for castle walls were master story-tellers. They used the ancient device of continuous narrative, not unlike the technique of the modern comic strip. The mediaeval designer, however, did not separate his scenes as sharply as the comic strip artist, but let them follow each other in a panorama connected by a continuous background. These narrative tapestries are, in fact, continued stories in which many events appear to be happening at the same time. Castles, pavilions, and towers divide the action at intervals and emphasize specially important scenes.

The settings of the spectacular mediaeval mystery plays probably influenced the

Marriage of Helen and Paris.

Helen begs forgiveness from Menelaus.

tapestry designers of the period. Stage sets had pavilions called "mansions" which gave the locations of important places and events. The section moved along the stage from mansion to mansion or down in front while the stationary scenery remained in view. It may be no accident that most of the great Trojan War tapestries known to us today were made within about fifty years of the appearance of Jacques Milet's popular mystery play, "The History of the Destruction of Troy the Great," and that they suggest so strongly the setting of the theater.

Mediaeval Adaptations

The story of Troy as used by mediaeval tapestry designers and playwrights was very different from that told in the Iliad, the Odyssey, and the lost epics of classic Greece, for what these men knew were the romances about the Trojan War. Such romances, beginning with the 12th century poem of Benoit de Sainte-More, had altered the ancient tale to fit the courtly life of the Middle Ages. Epic characters became knights and ladies, dressed in mediaeval costume and armor. Love played a large part in the romances, though it had been little stressed in the ancient epics — except, of course, that in both the war was fought for Helen's sake.

The romance writers explained that Homer — whom they did not know at first hand — had been mistaken about many things because he had not seen the Trojan War. They began the story of the war with the expedition of Jason and the Argonauts, among whom was Hercules. Laomedon, king of Troy, refused to allow the Argonauts to land in his country and also insulted Hercules after he had saved the king's daughter, Hesione, from a monster. Because of these slights Hercules, after Jason had won the Golden Fleece, returned to Troy, and killed the king.

Sympathy for the Trojans

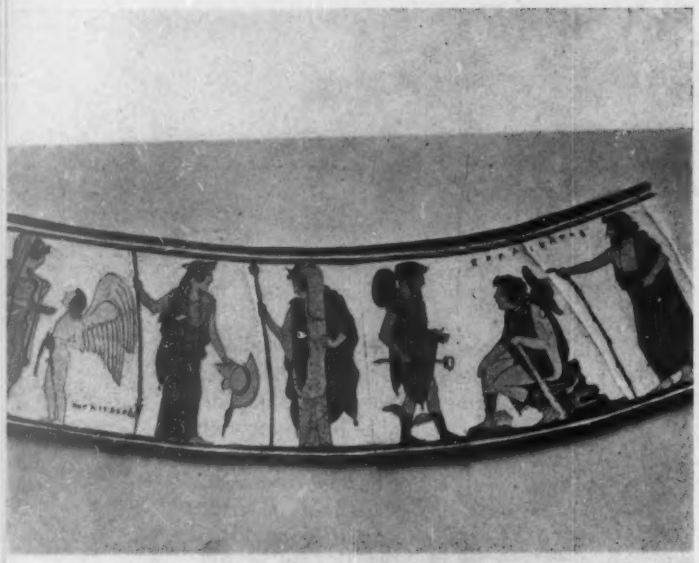
Mediaeval sympathies favored the vanquished Trojans rather than the victorious Greeks whom Homer had extolled. This was probably due to the story of the Roman's descent from the Trojan Aeneas as told in Virgil's Aeneid — one of the most popular Latin works of the Middle Ages. Following this example most of the ruling houses of mediaeval Europe traced their descent from Trojan refugees, thus adding still more to their popularity.

The 15th century dukes of Burgundy were among those who prided themselves on their Trojan ancenstry. Theye were in a position to see that the story was told in various forms of art, for they not only commissioned paintings and books to suit their taste, but also controlled the greatest tapestry-weaving centers of the time. For Philip the Good, one of these dukes, Raoul Lefevre, wrote a long French prose romance based largelv on a well-known Latin version of Benoit's poem. Lefevre's romance, completed in 1464, gives the story as it was probably most familiar to

(*Please turn*)

Paris brings Helen to Troy.

Mediaeval tapestries on this page courtesy of Duveen Brothers, New York.



Trojan War (continued)

the tapestry designers. It was essentially the same as in Milet's play.

* * *

About ten years after Lefevre's book was finished the city of Bruges gave to Charles the Gold, Philip's successor, a set of Troy tapestries from the workshop of the Flemish weaver, Pasquier Grenier. Several other sets were woven within a few years. Controversies rage as to whether any of the pieces which remain today belonged to the duke's set, and, if so, which they are.

No existing set of Troy tapestries is complete and none seems to have shown all the same scenes in the same order. The fact that many of the large tapestries have been cut into strips adds to the confusion. A group of 15th century French drawings in the Louvre gives a good idea, however, of how such a set may have looked. These may be the original drawings from which the working cartoons for tapestries were made or they may be sketches from a finished set.

The Golden Apple of Discord

According to Greek tradition the gods started the war. They began the conflict by omitting to invite the goddess of discord to the wedding feast of Peleus and Thetis, which all the others attended. Discord threw upon the table, among the guests, a golden apple inscribed: "For the Fairest." Hera, queen of the gods, Athena, goddess of wisdom and war, and Aphrodite, goddess of love, all claimed it. Zeus, king of the gods and Hera's husband, did not want to decide the question and referred it to a mortal who had a reputation for fairness—Paris, the shepherd prince, son of Priam, the king of Troy.

Hermes, the gods' messenger, led the three goddesses to Paris as he tended sheep. Hera promised him power and wealth for a decision in her favor: Athena promised renown in war; and Aphrodite, the fairest woman in Greece. Paris awarded the apple to Aphrodite.

Favorite Subject of Artists

Of all the incidents in the Trojan story, this Judgment of Paris has been the favorite among artists, from the days of ancient Greece to those of Renoir, who represented it in several paintings and in sculpture.

On a Greek vase in the Metropolitan Museum, Hermes leads the goddess, Hera, first, then Athena with her helmet, and finally Aphrodite, attended by her son, Eros, the god of love. In early Greek paintings the goddesses are clothed, but in later Greek and Roman art they are often entirely or partially nude. One version says that Paris asked them to disrobe that he might judge more fairly.

Mediaeval pictures show the scene as it was described in contemporary romances, which retold the epic tale as though it took place among the knights and ladies of chivalry. A fourteenth-century painting shows Paris in the armor of the period and two of the goddesses in mediaeval costume, while Aphrodite doffs her cloak.

Helen, the Beautiful

After Paris had awarded the apple he set out to win his reward. All agreed that Helen, wife of Menelaus the king of Sparta, was the most beautiful woman in the world. So fair was she that all the rulers of Greece had sought her hand and had sworn to defend her and the husband she might choose against anyone who might try to harm them. Without such a guarantee no man would have dared to marry her. Helen had chosen Menelaus and so far all had gone well.

But now, aided by Aphrodite, Paris sailed for Sparta. There he visited Menelaus and Helen and, while Menelaus was absent, persuaded Helen to fly with him to Troy. A Greek vase in the Boston Museum shows Paris and Aeneas leading Helen away, while Aphrodite herself places the bridal veil on her head and Peitho, goddess of persuasion, stands in the background, her work accomplished.

The idea of a guest stealing his host's wife from under the roof which sheltered him offended the mediaeval code of chivalry, and the romance writers had to tell the tale differently — for most European

Hector's wife begs him not to fight Achilles . . . Flemish Tapestry 1472-1474.

Funeral of Hector . . . Flemish Tapestry courtesy Arnold Seligmann & Co., N. Y.

countries of the Middle Ages claimed to have been settled by Trojan refugees and so the Trojans rather than the Greeks were the heroes of the romance and had to be shown in the best possible light. Accordingly the romances said that Paris found Helen visiting the temple of Aphrodite on the island of Cythera. She had gone, they said, because she had heard that he would be there and that he was one of the handsomest men in the world. Both paintings and tapestries show this scene of the abduction of Helen from Cythera.

Paris took Helen to Troy, where she was welcomed by Priam. A late mediaeval tapestry shows the arrival of the lovers at Troy. Helen kneels before Priam while Paris stands behind her. In a pavilion at the right Priam introduces her to the royal family, while Hecuba, his wife, welcomes her son. In another tapestry from the same set Paris places a ring upon Helen's finger in the marriage ceremony.

Greeks Set Out for Troy

For ten years after Helen's abduction the Greeks gathered their forces and then they sailed to Troy to avenge Menelaus as they had sworn. The war dragged on for nine years.

Mediaeval tapestries carry on the story of the Trojan War after Paris had stolen Helen from her husband, Menelaus. The deserted husband was beside himself with sorrow and anger — but chiefly with sorrow, for "he bewailed her beauty and her solace," as Lefevre's romance puts it.

The battle scenes which follow are shown in several tapestries. In one of these a centaur, half horse and half man, fights with bow and arrow on the Trojan side, but is killed by Diomedes.

After this battle came a truce, during which Hector, Priam's heir and the favorite hero of the Troy romances, visited the tent of Achilles, the Greek champion, and challenged him to decide the war by single combat. The challenge is shown at the right in the same tapestry with the centaur. Achilles accepted with special eagerness because Hector had killed his best friend, Patroclus. This is a very different story from that of the Iliad, in which the last fight between Hector and Achilles is the climax of a long history of anger and revenge. The romancers ignored this tale and treated the combat as a trial of strength and skill between mediaeval knights.

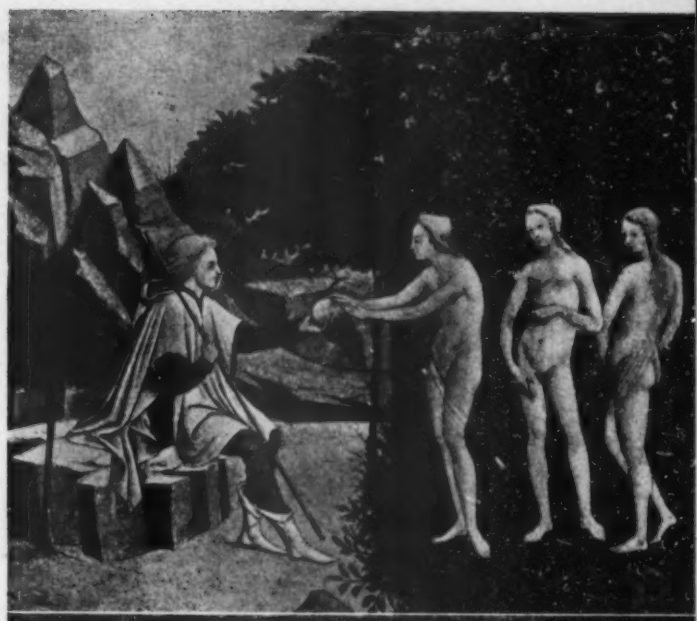
The armies prevented this encounter for a time, but soon Achilles pressed the Trojans so hard that Hector went out to kill or to be killed. A tapestry in the Metropolitan Museum shows Hector arming for his last battle. His wife, Andromache, kneels before him, with their two children, begging him not to go. She has foreseen in a dream that he will be slain if he fights that day. Their costumes, the priests conducting the services, and the Gothic arches and tracery, show how completely the artist has translated the pagan epic into a scene from mediaeval chivalry.

The Story of the Wooden Horse

Soon after Hector's death Achilles too was killed. But still Troy held out. Finally the Greeks made the famous Wooden Horse, in which they concealed a party of Greeks, and had it dragged into the city as a pretended gift to Athena. At night, when Troy was asleep, the hidden men descended and opened the gates. The city was put to the sword and burned. Those who were not slain were carried away captive, except Aeneas and a band of companions who escaped — to settle Italy, as Virgil wrote in his *Aeneid*, and to found many other countries, as mediaeval writers claimed.

In the midst of the slaughter Menelaus, sword in hand, came upon Helen and meant, at first, to kill her too. But at the sight of her beauty love overcame him — or, as a Greek vase interprets it, Aphrodite stepped between — and he threw away his sword. A late mediaeval tapestry shows a different version — a stately reconciliation scene. Helen, in trailing robes, kneels to ask Menelaus for forgiveness, which is granted freely as he beholds her loveliness undimmed by twenty years.

— Margaret Scherer



The Judgment of Paris — Illustrations on opposite page: (top) Painting from a Greek vase of the 5th Century B. C. (center) 17th Century English petit point from collection of Mrs. M. Taylor. (bottom) Painting by Rubens, circa 1635, National Gallery, London. Illustrations at right: (top and center) From decorated chests, Italian 15th Century. (bottom) 17th Century Flemish Tapestry courtesy of French Co., New York.

American Fabrics Forum

Who Will Endorse The Note?

Currently we encounter increasing anxiety on the part of American manufacturers over the consumer's newly recovered sense of value. It appears that the question of who-stands-behind-this-product was not laid to rest with the beginning of wartime shortages, but merely lay quiescent while Mrs. Consumer had to take what was offered and no questions asked.

At the same time we encounter the strange phenomenon of American manufacturers casting covetous glances across the seas . . . . to the fabrics produced by foreign mills. Let us get this clear:

AMERICAN FABRICS, although devoted to the interests and progress of our own great textile industry, is not blindly chauvinistic. We admit that in other lands there are mills producing certain specialties which our own technicians and artisans have yet to equal. But when it comes to the production of beautiful fabrics in quantity . . . for consumption by the masses . . . American textiledom holds the crown. But even were our mills and converters not so far advanced as to make competition weak by contrast; even if our achievements were but equal to rather than superior to those of foreign producers . . . we should still like American manufacturers to ask themselves these questions before writing orders for foreign goods:

1. What assurance have we on dye dependability?
2. What assurance have we on finish?
3. What assurance have we on washability, or dry cleaning qualities, or shrinkage, or stretch?
4. In other words: who will endorse the note of quality for my product, insofar as the fabric is concerned?

Almost since the first days after the war's end there has been a trickle of foreign fabrics to these shores. We know of instances where American manufacturers . . . whether hungry for something new to talk about, or merely hungry for new sources of supply . . . rushed headlong into cutting such fabrics into merchandise which promptly backed up on them for lack of quality performance. Today, with Mrs. Consumer standing firm on her resolution not to open her purse until she is convinced that she is getting value for her dollar, is no time for American manufacturers to experiment and gamble. Their operating margin must shrink as competition grows keener . . . and there will be no tolerance for markdowns bred of poor quality.

Taking gray goods quality for quality . . . we believe any manufacturer would be wise to entrust the finish to American converters and finishers. Their skill far surpasses that of other countries . . . and there is always the comfortable feeling of knowing that if you don't get exactly what you expected, you can rectify the matter by picking up your phone. When you deal with an American firm of standing . . . you *know* who endorses the note.

' ' '

An Open Letter To The U. S. Government

HONORABLE SIRS:

The Government, in conjuction with the International Silk Guild, is on the threshhold of embarking on a program of selling silk to the American consumer, through the expenditure of several hundred thousand dollars.

We respectfully submit that the mere spending of such a sum, regardless of how capably and through whichever organization, will fall far short of producing the hoped-for results; that the surest and swiftest way of selling silk again to America's consumers is *through silk itself*.

Deprived of silk, as the public knew it, for several war years; tendered a temporary expedient in the form of so-called parachute silk which was never constructed to withstand the uses to which consumer-industry put it; and then offered pre-war type silk at foolishly inflated prices . . . is it any wonder that the public, and even honest industry, evinces so little excitement over the prospect of regaining silk?

Silk, as you and we think of it, has a real place in the social and economic and fashion world of America; but silk must earn its right to occupy that position again. It must earn it by appearing in the form of better value-for-the-money, of better fashion treatment, and above all in merchandise which is better made of silk than of any other fiber.

Publicity alone, regardless of how much and how loudly it shouts, will do very little toward achieving your aim. The problem is one, really, of underpitching to regain public confidence; of *proving* rather than claiming; of demonstrating the position of silk, the worth of silk, the advantages of silk in the form of finished merchandise of reestablishing silk with the apparel producers of America . . . of re-educating the retailers . . . and then of making it easy for the mass of consumers to gain firsthand knowledge of the case for silk.

We know we can speak for the great retail stores of America when we state that they will cooperate fully in such a program; and we believe it would be wise, whatever form you may adopt for the reselling of silk to America, to enlist the aid of these selling champions.

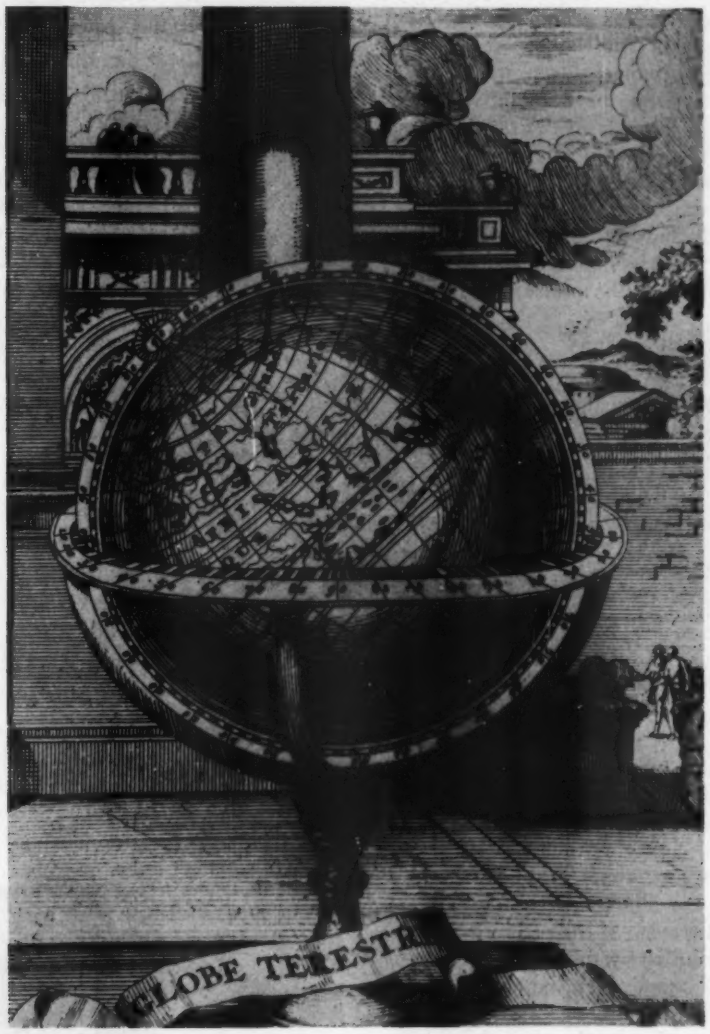
In conclusion, we suggest that at least as much thought be given the selling part to be played by silk itself, as to the dollars and slogans which will emblazon the campaign.

Respectfully yours,

THE EDITORS OF AMERICAN FABRICS

American Fabrics

HISTORY OF TEXTILES



The history of textiles is the history of the world . . . politically, socially, economically. Each new development . . . in fiber, in process, in machinery . . . caused a revolution in its own way, and left its mark on the life of the time. To understand fully the true import of the American textile industry of today it is well to know the true relationship between the histories of the world and textiledom through the centuries past. Indeed, this history of textiles will provide to the visionaries of our industry a clue of things to come. (*please turn the page*)

HISTORICAL DATES IN THE STORY OF TEXTILES

SCRIPTURE AND ANCIENT LITERATURE: These contained references to sheep, shepherds, cotton, linen, wool, weaving, etc. Genesis informed that "Abel was the keeper of the sheep, Cain a tiller of the soil." There is a passage in Deuteronomy about the culmination of the dispute between the children of Israel, who wore woolen garments, while the Egyptian children wore linen.

Legend has it that about 6,000 years ago, the Babylonians wore woolen robes. Mesopotamia, the homeland of the Turks later on in history, was the "land between the rivers." These lands (Assyria, Babylon, Chaldea) are considered as the homeland of wool. It was the Greeks who called the land Mesopotamia and they considered wool as a symbol of wealth.

Many references about flax and linen abound in ancient writings. Linen, according to some writers, is the oldest textile fiber known to man.

The Egyptian weaving business goes back a mere 5947 years

About 4200 B.C., relics of sheep were found in the Tel Asman or Great Hill on the banks of the Euphrates in Mesopotamia. There was a flax-linen industry in Egypt around 4000 B.C., and there are extant mummies encased in linen fabric.

The earliest known representation of sheep is in a mosaic of Ur, not far from the Iranian Gulf. This was about 3500 B.C. Around 3000 B.C., folks in Britain wore some crude form of woolen garments during this Bronze Age era.

Hemp was known and used in China about 2800 B.C., and a legend of 2640 B.C., gives rise to the fact that the silk industry began to take on impetus. The Empress, Si-Ling-Chi (She) encouraged the cultivation of the mulberry tree, the raising of silkworms, and the reeling of silk filament from the cocoons.

India was raising cotton and spinning yarn to be woven into fabric by 1800 B.C. Sheep received notice shortly after, 1760 B.C., when mention was made that the flocks which belonged to Laban, the Syrian, were of good breed. His flock-master and son-in-law was Jacob, grandson of Abraham.

Many references to cotton appear in the Bible and by 1600 B.C., the Hebrews were weaving fabric on vertical looms. About 1500 B.C., mention was made of cotton in a Hindu Rig-Veda hymn.

The Terramara, descendents of the Swiss Lake Dwellers who lived in raised houses built on platforms over swamps, knew how to card, to spin, and to weave yarn into cloth. This was around 1100 B.C., and their relics have been found in northern Italy.

1000 B.C.: The Phoenicians were carrying on active trade with the Spaniards in the port of Cadiz. Much business was done in raw wool and all types of woven goods.

800 B.C.: The Etruscans, who had conquered the peaceful, pastoral people of Terramara, wore a garb modeled along the lines of what their captives used for attire. This included a tunica or undergarment and a mantle or toga as outer apparel.

715 B.C.: Wool dyeing was established as a craft in Rome.

450 B.C.: Herodotus, 484-425 B.C., stated that the Babylonians wore a linen shirt or covering which reached to the ground, and that it was worn over a white tunic.

330 B.C.: About this time, Aristotle, the youngest and the greatest of the Socrates-Plato-Aristotle triumvirate in philosophy, spoke of the silkworm, Bombyx-Mori, which possessed horns which made it different from ordinary worms.

327 B.C.: Alexander the Great, at the time of the invasion of India, expressed wonderment at the beautiful cotton prints made there. Mention was also made of the flax and linen industries.

200 B.C.: The Romans were practicing scientific sheep raising and breeding. They developed the famous Tarentine breed of sheep by crossing Colchian rams imported from Greece with Italian-bred ewes, the forerunner of the present day merino breed of sheep, the best in the world.

Around this era, the Greeks wore long wool chitons or shirts which reached to the ankles and were dyed in various colors.

75 B.C.: Pompey, 106-48 B.C., Roman General and a member of the First Triumvirate, returned from China laden with beautiful silk fabrics. During this era silk became the leading cloth of the Empire.

63 B.C.: Cotton awnings made their debut in Rome.

REIGNS OF CAESAR, 100-44 B.C., and TIBERIUS CLAUDIUS, 10 B.C.,-54 A.D.: Caesar, with the aid of his animal-husbandry expert, Lucius Junius Columella, fostered the breeding and raising of sheep, the production of wool, and the manufacture of woolen cloth for his legions.

This early urn tells us that the Greeks had a way in weaving, too

Columella, in his book, "De Re Rustica," brought out many ideas, suggestions and principles that are still adhered to in many parts of the world. He was a Roman who lived in Cadiz, Spain, with estates in and near Cordoba. Columella's work was featured by his cross-breeding Tarentine sheep with native white sheep of the wandering tribes of his time. His knowledge of animal husbandry was such that he improved upon prior efforts to improve sheep and wool with the result that he is considered as the one who actually developed merino sheep.

During the reign of Claudius, he crossed Tarentine rams with native Italian and Spanish ewes and im-

ported North African rams for breeding purposes, as well.

Incidentally, Spain, where Columella carried on his great work, continued to lead the world in the merino sheep industry for many centuries. It was not until 1765 that Spain finally began to give up some of its prized merino stock. This was because England, as one of its rewards, demanded some Spanish merinos as a part of the treaty made after the debacle of the Spanish Armada in 1588. And it took England about 200 years finally to obtain the prized and cherished merino sheep from Spain. Thus, the Spaniards had been able to keep their flocks from the rest of the world for about 1800 years, a rather remarkable feat.

Agricultural colleges all over the world still use some of the methods inaugurated by Columella almost 2,000 years ago.

EARLY ANNO DOMINI YEARS: Prior to the death of Ovid, A.D. 18, he explained the processes involved in making woolen fabric. Shortly after this time, Pliny stated that woolen garments could be made without the spinning and weaving processes. He also made reference to the finest wool sheep in the world of his time, the original Tarentine sheep. The growing of cotton and the raising of sheep in Egypt did not escape the observations made by Pliny, since he extolled the work being done there in cotton culture and animal-husbandry.

Saint Jerome stated that "We should not enter the altar in everyday clothes, but in clean garments with a clear conscience."

SECOND CENTURY: Elis, Greece, was the homeland of the first cotton raised on European soil.

195: Silkworms first reared in Japan, the year that Buddhism entered the nation. Progress in the beginning was slow.

Cause and Effect: Silk worms in 195 A.D.—Atom Bomb on Hiroshima 1947, A.D.

THIRD CENTURY: Japan began to learn much more about silk from Koreans who had gained their knowledge of silk from the Chinese. It was not until this time, however, that the Japanese began to take genuine interest in sericulture.

273: Because of the fact that silk was considered to be worth its weight in gold, Aurelian, 212-275, Roman Emperor, refused to buy his wife a much desired silk shawl.

300: India began to take an interest in sericulture. A Chinese princess is supposed to have carried, in her bridal headdress, some silkworm eggs while en route to India.

EARLY FIFTH CENTURY: Herodotus, in writing of the wonders of India, spoke of the splendid breeds of sheep and the excellent woolen cloths made there.

500: Hemp made its debut in Europe by way of Asia.

542: Printed cottons of distinction found in the grave of Saint Caesarius, Bishop of Arles, about this time.

552: Two Nestorian monks are supposed to have hidden the secrets of silk in the hollow of their canes, and gave the information about sericulture to the Greeks and the Turks.

SEVENTH CENTURY: Tradition has it that St. Fiacre, second son of King Eugenius of Scotland, is the patron saint of knitters. The first woolen stockings seen in France came from Scotland.

The Sheep—the Animal Kingdom's greatest gift to Man

EARLY EIGHTH CENTURY: The Saracens overran Spain, the beginning of the struggle which was to continue for centuries between Barbarian and Christian. The Saracens introduced to Europe beautifully woven fabrics which became the cynosure of all eyes; the Western World, up to this time, had seen nothing comparable with these materials. By the Thirteenth Century, one of the most progressive centuries the world has ever witnessed, Spain had become a leader in the textile field.

768: This is the year that Charlemagne became king of France. He favored the textile industry and established the two world-renowned textile centers of Lyons and Rouen; the former city is still the silk designing and weaving center of the world. A few years later, Charlemagne instituted the cloth fairs throughout western Europe. These centers are still the clearing houses for world buyers and sellers.

779: European guilds mentioned as "merchant companies to promote foreign commerce."

796: Charlemagne of France and Offa, King of Mercia in north-midland England, made a treaty in which the length of woolen cloths and cloaks was discussed.

Charlemagne granted charter to "English pilgrims in France, an association to carry on trade" in English Monastery wool. This is often referred to as the first English trade agreement.

NINTH CENTURY: Legend has it that from Greece, the knowledge of sericulture spread to what is now Italy, Spain, and Portugal. In time, other European nations learned of the wonders of silk, especially France, which today is one of leading silk designing and silk weaving centers.

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HISTORICAL DATES IN THE STORY OF TEXTILES (continued)

800: Records show that cotton was grown in Japan.

804: Hamburg and Lubeck were founded by Charlemagne. These cities became clearing house ports in the Renaissance Era, and during the Commercial Revolution which so greatly affected the social, political and economic life of Europe and the rest of the world. Itinerant textile workers of all types gathered in Hamburg and Lubeck, as well as textile merchants, cloth brokers, etc. of textile products through these ports supplied the world.

EARLY TENTH CENTURY: Cotton raising and cotton weaving were developed in Spain. The Arabians fostered cotton culture in Sicily, which rose to great heights in the era.

900: Alfred the Great, who reigned from 871 to 901, did much to stimulate the wool industry in England. His mother fostered spinning among the women folks in the home, so that increased yarn could be made available for the men weavers and finishers.

925: Wool dyers' guilds initiated in Germany.

958-975: Edgar, the Saxon King of England, "studied the needs of those who were traders in wool."

961: Indoor cloth halls were established in Flanders in the cities of Bruges, Ghent and Ypres; the idea came from Oriental methods of bartering. These halls preceded the outdoor cloth halls and fairs by about 75 years.

979: The Teutonic Guilds were founded in London under charter granted by King Ethelred III in return for twenty-pounds of pepper each year. These mercantile groups were to carry on successful business in England until they were banished by Queen Elizabeth in 1578 as a retaliatory measure against Germany.

ELEVENTH CENTURY: During the 10th and the 11th centuries it may be stated that Flanders clothed Europe in woolens. The rise of the Guild System occurred throughout Europe. The French and the Dutch were the last major nations to sanction them.

1000: Venice dominated the textile raw material and finished products markets and retained this position for many years, since it was the central city for Asiatic and European commerce.

1015: The Humiliates or Humble Fathers of St. Michael founded. In 1252, the community in Alexandria, Egypt, went to Florence, Italy, and brought with them their knowledge and skill in spinning yarn, and weaving and dyeing cloth. They had looms capable of the most intricate weaving.

1080: Weaving guilds became very strong in England, started the present day woolen and worsted industry there.

1100: William II, surnamed Rufus, was killed. In his wardrobe was "one pair stockings valued at three shillings."

1120: Henry I, England, scattered and relocated the splendid Flemish workers then in England among the towns, villages and hamlets so as to increase the textile knowledges and skills of his own people. He sponsored the first merchant guild about this time, the woolen cloth weavers. Other guilds soon came into being. At this time the guilds were composed of those who did not sell their labor but only the product of that labor. This method laid the economic foundation of mediaeval textile activity.

1134: Scottish dyers were regulated by King David I, Scotland.

1147: Roger II, Norman conqueror of Greece and Sicily, returned from his campaign against the Greeks and had with him a great many Greek weavers. They were put to work in Palermo, Sicily, teaching the textile arts to the natives.

1150: Some Hebrew cloth manufacturers from Flanders went to England. "In spite of persecution," they participated in adding impetus to the woolen trade there.

1153: Under King Stephan, English woolen production reached a point where a royal charter was solicited and granted to the Priory of St. Bartholomew to hold an annual cloth fair, the first to be held in England. Flemish workers in England, very likely, suggested the plan.

1154-1189: During these years of the reign of Henry II, England, a charter was granted to the guild of woolen-cloth weavers who were allowed the exclusive privilege of exporting raw wool to London. This grant was opposed by the English sheep growers since they desired to ban the importation of the superior Spanish wool which naturally made a fabric better than that made from their English wool. Immediately after the death of Henry in 1189, Parliament passed a law making it a crime "to mix English wool with wool from Spain." The idea was to promote all English wools and woolen fabrics.

1156: Henry II, England, occupied Ireland for the first time that any English sovereign made the attempt and succeeded. He, as well as successive English rulers, frowned on the Irish industries. The reason was that the Irish were doing well and were competing with English markets. Ireland, however pulled through since it put its sheep to pasture, wool became plentiful and meat became cheap — a plan for self-sufficiency that worked. Henry's idea of forbidding Ireland to export any and all types of cattle proved to be, at this time, a boomerang.

1164: Weavers and fullers guilds were now established in seven English cities.

1173: The Spanish rabbi of the Kingdom of Navarre went to Jerusalem and reported that the only dealers in wool were Hebrews. Two hundred of them were in this business.

1188: First mention of guilds for dyers in England.

1193: There were guilds for weavers in Florence. Cloth merchants guilds were also founded around this time — "arte della Callimali." These guilds, for the time being, prevented the formation of guilds for dyers since these were considered as weavers' assistants.

1197: King John, of English Magna Carta fame in 1215 persuaded Parliament "to regulate the dyeing of woolen cloth," which was offered to the buying public.

THIRTEENTH CENTURY: Cardinal Barberini reported 16,000 looms in Seville, Spain, and that Catalonia, because of its excellent output of high quality woolen cloth, had much to do concerning the good relations with Byzantium, Egypt and Greece. Barcelona was also coming into its own as a noted textile center.

Why was it a crime to mix Spanish and English wools together? . . . how did textile knowledge and technique spread throughout the world . . . When was the word "Worsted" first used? . . . Which King was made great by Wool?

St. Andemai, in England, spoke of weaving and dyeing woolen cloth, with purple and red colored fabric used for religious rituals.

This century saw the rise of the famous Monastery Wool which was grown under the auspices of the many abbeys in England, Scotland and Wales.

1200: By this time, the flourishing city of Florence had about two hundred wool dyers, fullers and cloth cutters or tailors. It was not until 1212 that this city had some listing of weavers and spinners.

1210: Alexander II, King of Scotland, chartered cloth-merchant guilds in Aberdeen, Perth and Sterling.

1212: Mention was made of the fact that a fee of twelve-pence per pound was to be made for stuffing the acton of King John of Magna Carta fame.

1215: The will of Earl of Salisbury, son of Henry II, England, bequeathed "one thousand sheep and three hundred muttons" so that he might aid in the building of a proposed monastery. Cloth makers guilds appeared in Florence.

1221: Henry III, England, ordered the mayor of London to burn every piece of woolen cloth which contained Spanish wool; to protect and foster home production and consumption.

1240: High quality imported fabric again began to appear in England. English wool merchants began to export some of their wool to Flanders, diminishing their own stock piles. The British were becoming "commerce-minded."

1250: About this time, satin was first made in southern European countries.

Almeria, in Andalusia, Spain, was noted for its richly woven textile fabrics.

1252: The work of the Humiliates was now being felt in Florence, where for two centuries before this some progress was made in adding to the prestige of Florence as a textile center. The Florentines owed much to these Fathers of St. Michael, who aided the city in reaching the pinnacle it had now achieved. The Benedictines, a century later, gave the real momentum and impetus to Florence as a world leader when they joined forces with the Humiliates. They made Florence flourish, and for a long time.

1253: Marco Polo told of the Persians, that when he passed through their country, he observed that "there are excellent artificers in the city who make wonderful things in gold, silk, and embroidery. The women make excellent needlework in silk with all sorts of creatures very admirably wrought therein."

1261: Henry III, England, noting conditions on the Continent, prohibited "export of any or all English wools."

Coventry the Valiant, the home of Lady Godiva and the famous blitzed city in World War II, was at this time noted for its raw wool, woolen fabrics and cap cloth. Richard II allowed the people of this city to tax, for a period of years, all wool processed locally into cloth in order to raise funds for public improvements. He sanctioned the plan for five years and then it was cancelled.

1270: The first banking law on record emanated from Venice. It was to protect depositors in transactions, textiles and otherwise, with other nations; merchant-operated banks came into being.

The Abbey at Meaux, England, had over 11,000 sheep.

1271: "All workers, male and female, as well of Flanders, as of other lands, may safely come to our realm, there to make cloth." This was a decree from Henry III, England. A year later he was to speak of the great raw wool business in the Kingdom and of the amount of commerce done with the city-state of Florence.

1279: In a petition of protest addressed to Edward I, England, it was asserted that "the value of wool exported to Flanders is nearly equal to half the total value of English lands."

1285: Florentine banking houses were making generous advances in money to English abbeys in return for the entire raw wool output. The merchants and banking houses of Florence and the English abbeys enjoyed many years of good business intercourse, chiefly in wool transactions.

1295: Velvets were first mentioned in England, although they had been known for a long time on the Continent with Genoa, Italy, the center of the industry. Cut-velvet was made with elaborate patterns, in several Italian states.

The Loom was a focal point in Renaissance life

FOURTEENTH CENTURY: Venice had over 17,000 woolen cloth workers. Philip the Fair of France, 1285-1314, was so jealous and alarmed at the popularity of Flemish woolens that he forbade their purchase by his people. It did not, however, prevent his agents from buying them for his own wardrobe since they were definitely much superior to comparable French cloths.

Sheep raising was now the most profitable agricultural pursuit in England. This cut down exports of other goods. The conditions reached such a point that it was decided to build up a native woolen industry since there was too much wool on hand. Merchant guilds were organized to handle the situation, the Gilda Mercatoria.

1307: Edward II, successor of Edward I, England, decided to rid himself of all creditors, whose number was large under "Longshanks," a moniker applied to Edward I. By 1311, on the pretext that foreign creditors in England were considering leaving England en masse, Edward confiscated all the English property of the supposed aggressors. The largest group among these recalcitrants was the Florentine contingent. Many were merchant-bankers who had large

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interests in the famed Monastery wool.

By 1320, most Florentine merchants had left England and had to leave their interests there.

English wool sent to Florence was now shipped via the port of Genoa. Frequently city-state wars in Italy, however, greatly interfered with this method of shipping wool by sea from England to Italy.

1309: The Crowland Abbey in England owned about 9,000 sheep.

1310: Florence produced over 100,000 pieces of woolen cloth on an annual basis. The wool came chiefly from England, Sardinia and Spain.

1315: First mention of word, worsted, in reign of Edward II.

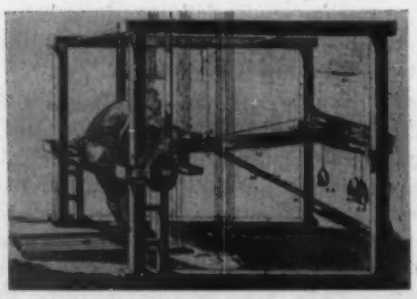
1326: Foreign-made cloth was forbidden within the confines of England, Ireland and Wales by Edward II.

1327-1377: Edward III has always been looked upon as one of the greatest of English kings. Known in history as "The Father of English Commerce" and "The Royal Wool Merchant," he did much to make the importance of his land felt in world commerce. He offered protection to all foreigners living in England and to those who might come there in order to improve the textile industry. He was quick to realize the many weaknesses of England at the time, especially true in the textile field.

Following the methods employed by his predecessor, Edward II, he repudiated all debts owed to foreign interests in 1342, either to the state or to the individual. This marked the end of strong influence of Florentine merchants in England. England was now very well fortified with Flemish textile workers who spread their skills throughout the kingdom; this may have had something to do with the rulings of the King.

1334: Bruges in Flanders was at this time the only raw wool center of importance on the Continent for receipt of English wool which was being sent to Florence.

1337: Flemish textile workers began to pour into England in accordance with the earlier edict of King Edward III. Wool was now a crown commodity and the king announced that he would buy all English wool. Much of the wool had to be seized since many growers were not in sympathy with the rulings anent wool. Disappointed merchants received promissory notes for their investments and then Parliament had to pass drastic laws prohibiting the export of English raw wool. Smuggling now became rampant and it has been said that it caused the birth of the English navy since the smugglers had to be ferreted out of their rendezvous. An active period in history.



An early loom for making velvets.

1340: The Humiliates and the Benedictines joined orders and made the city-state of Florence just about the most powerful city-state in Europe. The former had been in Florence since 1252. By 1340, the religious orders had over 200 communities in Florence and were growing in numbers and importance. There were 30,000 craftsmen in Florence who were producing about 80,000 pieces of cloth per year. Figures do not include cotton and linen goods.

Leonardo da Vinci—the spinning of yarn
Catherine de Medici—her family were textile bankers

It was around this time that Leonardo da Vinci designed his flyer for use in the spinning of yarn and his device for shearing of finished woolen fabrics to make them have a rather smooth surface effect.

The famous de Medici family with all its branches were the patron saints of textiles, merchandising, and the textile-banking business. These Florentines laid the foundation for world commerce, trade and banking, local and foreign. Members of this renowned family were members of the various textile guilds and many of them were well versed in the respective fields. It may be said, therefore, that the Medici founded banking as a necessary adjunct to the great textile industry and its far reaching branches.

1346-1350: Another great influx of Flemish workers went to England. This laid the genuine groundwork for the present British woolen and worsted industries.

1350: Sir John Mandeville, English explorer on his return from India wrote that, "there grew there a wonderful tree which bore tiny lambs on the end of its branches. These branches were so pliable that they bent down to allow the lambs to feed when they are hungrie." He was speaking of cotton.

Around this time, satin was first mentioned in England when Bishop Grandison made a gift of choice satins to Exeter Cathedral.

1351: A Flemish decree prohibited the sale of woolen cloth beyond a distance of three miles from the town in which it was made. Alarmed at the English attitude of this time, the Flemings passed laws which were to improve the quality of their fabrics which were to be offered to the buying public and to keep the standards in accordance with the seals of the respective Flemish cities. Every city had its Cloth Examining Board, which was made up of three persons chosen by local authorities. The Flemings were of the opinion that quality counted more than quantity, and that quality would sell their products.

1385: The six hundred year old city of Bruges in Flanders was now the "center of commerce of all Christendom."

Who were the first Textile Factors in recorded history? . . . what explorer wrote about trees that grew sheep? . . . did you know that Price Ceilings are nothing new—they were used in 1488.

FIFTEENTH CENTURY: Ypres, in western Flanders, because of its being such an important textile center, was larger, more populous and of greater importance than London.

1400: About this time, the Wool Wheel or High Wheel, with an intermittent motion, came into being.

1400-1700: Developments in and around Castile, Spain, of the merino sheep flocks were startling. So much had the flocks been improved that the wool far outstripped any other wool throughout the world. By 1700 Spanish merino sheep were the envy of the world.

1422-1461: Henry VI reigned in England during these years. His most important ruling seems to be the non-exportation of live sheep.

1440: A Venetian merchant bought 100 bales of Monastery wool in England for $1,500. The bales approximated 350 pounds each, comparable with wool bales of today in many major wool centers; however, the price was much cheaper when compared with the cost of the commodity today.

1461-1483: Edward IV, England, modified the rather harsh law of Edward III anent the non-exportation of raw wool from England. Citizens, however, because of Edward's views in the matter, were permitted to sell their wool outside of the country provided it was sent to Calais, France, for distribution. The law was not lifted until the time of Queen Elizabeth, who allowed full exportation of English wool.

1466: Edward IV, England, in order to curry favor with Henry of Castile and John of Aragon allowed the shipment of some English sheep to Spain. The catch in the gift was that the sheep were not of high quality and much below Spanish merino sheep in classification.

1480: Louis XI, King of France, became a patron of the silk industry in Tours.

1488: England put ceilings on the prices to be paid for knitted caps.

1490: This era may be said to mark the decline of Spain as a textile power, not so much in sheep but in the fabric markets. Just prior to this year, Ferdinand V banished about 100,000 woolen workers, alone, from Spain because they were of Saracenic origin. Philip III in this year, "in an endeavor to drive all heathens from the country," banished 700,000 aliens, many of whom were textile workers.

Spain, it will be recalled, at this time in history very foolishly was more interested in the gold from the newly-founded colonies in the New World than in keeping its diligent workers. No longer did Spain adhere to the old Spanish proverb, "Wherever the feet of sheep trod, pastures turn to gold." The Era of Discovery, in time, was to prove very unfortunate to the shortsighted Spaniards. The merino sheep industry held on very well until the Spaniards commenced shipments of their prized sheep to England between 1765 and 1786, in accordance with the treaty made following the defeat of the Spanish Armada in 1588. Thus, it took Spain almost two hundred years to finally comply with the treaty agreements concerning the merino sheep that were to be turned over to England.

1492: Columbus found cotton in the Bahamas and took samples of Sea Island cotton to Spain. The knowledge of the fiber spread to other European nations who already knew of cotton from the Crusades by way of Egypt, Persia, and the Far East.

1497: Vasco da Gama, Portugal, sailed around the Cape of Good Hope and discovered the world trade route to India. This voyage has had much to do with the changes in the social, political and economic phases of world commerce and culture, down to the present day. Neither Portugal, or its rival, Spain, received lasting good from these various discoveries around this time since they are not now considered major world nations.

SIXTEENTH CENTURY: The local cloth merchants of Bruges, Flanders, early in this century used to meet in the home of the Flemish nobleman, Van der Barse. This gave rise to the present day word, "bourse," as a universal meeting place for groups of like-minded people.

1500: Henry VII, England, authorized migration of a "Company of the best workers in wool of Flanders," since the ban on exportation of English raw wool was still in force.

1516: Henry VIII placed many Flemish workers in Coventry. They introduced new spinning and weaving methods which made the city famous as a textile center for centuries. The famous woolen "Coventry Blue" was made there.

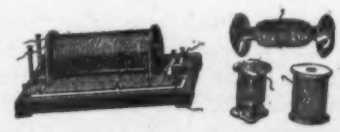
1519: Pizarro and Cortez found the "little white flower" in Mexico, Central America, and South America.

1520: Francis the First, the Father of the Silk Industry in France, brought silkworms from Milan, Italy, to the Rhone Valley, where they have been reared ever since. Francis laid the foundation for Lyons and Paris; the former as the world center for design and motif in fabrics of high quality, the latter as the world center of fashion and style in apparel.

Magellan found cotton being raised extensively in Brazil.

1522: Cortez, the noted Spanish explorer, appointed some officials who were to introduce sericulture in what is now Mexico. Acosta, the Spanish chronicler of records, says that the venture died with the century.

1532: This marked the last visit of a Venetian ship to England for a wool cargo; Venice was now waning as a major city-state in Europe.



This model was called 'Bobine de Ruhmkorff'

1533: A citizen of Brunswick, Germany, invented the so-called "bobbing-wheel." This was a regular spinning wheel with a cranked axis on the large wheel, and an added treadle by which the spinner could rotate the spindle with one foot. Incidentally, the women-folk were able to work with their mouths "free." Thus gossiping, in time, became a fine art among the spinsters of New England while carding wool and "spinning a yarn." *(Please turn page)*

Pizarro, conqueror of Peru, said that Peruvian woven fabrics were superior to those made in Spain and that their woolen fabric was comparable with the linen fabrics made in Egypt.

1539: Henry VIII, England, suppressed 190 abbeys and monasteries in Great Britain — the demise of Monastery wool which had been in great demand from the 6th century, at home and abroad to this time. These communities housed upwards of 50,000 persons at the time of the suppression; their annual income was close to twelve million dollars.

The struggle between the Papacy and Henry brought about this drastic action, as well as many others, in this period of storm, stress and strife.

1540: Spaniards brought sheep to Mexico. Native Indians began to weave wool into blankets. The Pueblo Indians became experts in the weaving, but in time they rebelled against the Conquistadores. The Navajo Indians received the sheep of the conquered and dispersed Pueblos. Only the best of present day textures compare with the ancient types of Pueblo and Navajo weaving.

1541: Coronado had about 5,000 sheep with him on his trip from Mexico City across the Rio Grande into what is now the United States. His voyage took him to about the present site of Dodge City, Kansas. He was searching for the "Seven Cities of Cibala." Some of the sheep died en route, some were eaten, and some were captured by various Indian tribes encountered on the way. Tradition has it that only 28 sheep survived.

1545: The Spaniards, in what is now Chile, interested in hemp.

1546: Osney Abbey, England, which had been suppressed by Henry VIII, in 1539, housed about 2,000 textile workers.

1550: Spain sent some merino rams and ewes to Peru in order to found the merino sheep industry there; they did not, however, thrive and the project was abandoned.

1567-1575: Queen Elizabeth was instrumental in bringing about the influx of Dutch and Flemish refugees, many of whom were textile workers. At this time, the Spanish Invasion of Flanders and the Netherlands wreaked havoc, which caused the exodus. The work and influence of these workers did much to enhance the British textile industry, particularly in the woolen and worsted fields. Cotton, at this time, was relatively unimportant in England.

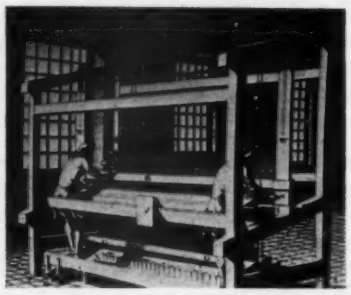
1577: Hand-knitted worsted stockings popular in England.

1578: Antwerp, then a Dutch possession, was sacked by the Spaniards; and the powerful Merchant Adventurers, trading companies, went to the city of Hamburg, but the Germans forbade their staying there. These groups had been in Antwerp since 1474. Queen Elizabeth, in support of the English merchant groups, then banished all German merchants from England, including many long-established textile traders with offices there. The "Teutonic Traders," some with 600 years of background, had to leave England.

1585: Philip II, Spain, invaded Flanders. The Dukes of Alba and Parma made shambles of Antwerp, Bruges, Ypres and other Flemish cities. Thousands of skilled workers had to flee to other nations and many of these went to England, France and Ireland. Elizabeth welcomed all the workers who came to British shores and these groups did much to make England more of a textile power.

1587: Venetian merchant-operated banks were founded as the first public banks in Europe to deal with foreign exchange in practically every industrial center in Europe. Many of these cities were textile centers.

1588-1765: Spain had a world-wide reputation for its merino sheep to the time of its defeat by the English in 1588 — the loss of the Spanish Armada. Despite the defeat and the treaties made concerning sheep, it was not until 1765 that other nations succeeded in receiving merino sheep from Spain. England was supposed to have received some merino sheep shortly after the Spanish defeat but it took almost 200 years for the fulfillment of the arrangement.



The Loom was center of political and economic strife.

1589: William Lee invented the knitting frame.

1598: Juan de Onate, Spanish explorer, may be credited with the founding of the American southwest. He set out and covered about the same route as Coronado in 1541. He had 3,000 sheep with him, the Churro type, a low grade breed. De Onate gave some of the sheep to each Indian tribe encountered on the way. The Franciscan and the Jesuit missionaries on the voyage with him included several animal husbandry experts. They aided the Indians in caring for the sheep left with them, taught them pastoral life and gave general instructions for breeding. Incidentally, this group did much in the cause of mission growth in the west and the southwest.

1599: Machine-knitted stockings were first made by William Lee of St. John's College, Cambridge University, England. First nobleman to wear them was the Earl of Pembroke.

SEVENTEENTH CENTURY: By this time the death-knell had sounded for the famous Italian city-states; and they were passing into oblivion. Their medieval commercial importance was now a memory and their halcyon days were over. The Era of Discovery had worked in reverse for these states.

1600: American cotton was offered to English cloth makers; England was buying its supply from the Near East. The response was small. About this time, the Flax Wheel, with a constant motion, came into being.

1607: The London Company sent a flock of sheep to Virginia.

1609: James the First, England, in the year of the settlement of Jamestown, Virginia, thought it would be well to introduce sericulture there as an occupation for the settlers. They had worries other than those of raising silkworms.

Did you know that Oliver Cromwell was a textile man? . . . that Spanish sheep grazed in Kansas in the year 1591? . . . that the first worsted mill in America was established in Boston?

1623: Virginia plantation owners were to be fined ten pounds if they did not produce at least ten mulberry trees for each one hundred acres; not successful.

1625: The Dutch East India Company sent a flock of sheep to what is now New York City.

1629: At Spitalfields, London, England, an incorporation of silk workers was formed. James the First was the sponsor of the throwsters incorporation.

1630: Drebbel, Holland, produced a new scarlet dyestuff for wool by the use of tin and cochineal.

1631-1637: England sent shipments of sheep to Boston.

1633: The Massachusetts Colony received its first flock of sheep, which were scattered and given to settlers. By 1640, about 3,000 sheep were in this colony.

1634: John Pearson built the first fulling mill for treating woolen cloth in Rowley, Massachusetts.

1635: Dutch Texel sheep from Holland were purchased by Massachusetts colonists. These were to be used in cross-breeding since the Massachusetts sheep were of low classification.

1641: The cotton industry was established in England. In this industry were heard the first rumblings of the Industrial Revolution.

1643: The Massachusetts Bay Colony now had only 1,000 sheep. Weather and Indians still affected the increase of flocks.

1645: The colonists began to get acquainted with hemp.

1649: English free trade was finally thrown open to all cloth merchants. They were now free to trade with the world except for African ports, the Levant, and Russia.

1650: Cotton plantations were established in Virginia.

1654-1658: Cromwell forbade, during his tenure, the exportation of sheep, raw wool or yarn to the American colonies. Cromwell knew what this would mean since he was a textile man himself, a fuller of woolen cloth. The colonists retaliated to this Non-exportation Act by conserving their own wool and arranging for credits with Holland to purchase sheep. Agreements were also made with Spain to do business with the colonies.

1656: Some skilled English weavers slipped through the various English embargoes and settled near what is now Lowell, Mass. Land grants were given to these workers who taught their skills to the colonists.

Linsey-woolsey, one of the most popular cloths of the time, was made in a 27-inch width and it was about twice as expensive as woolen homespun. This fabric was in demand, at all times, until the War Between the States, 1861-1865. Other cloths became more popular.

Kersey, flannel, and worsted serge were the other popular fabrics until about 1863. The War Between the States caused many changes after its conclusion.

1661: The government of Poland suppressed the first power loom which had been made by a citizen of Danzig because the invention, it was thought, would cause chaos among the citizenry. The inventor was drowned "to protect the poor."

1664: In his book, "Micrographia," Dr. Robert Hooke, an English naturalist and scientist mentioned the possibilities of making an artificial yarn by mechanical means; forerunner of rayon.

Second fulling mill for woolens built, Watertown, Massachusetts.

There were now about 100,000 sheep in the Massachusetts Bay Colony.

1665: Massachusetts decreed that every household spin yarn and weave cloth in proportion to the number of females in the family. Incidentally, the well-known term, spinster, was born. The law required that each family make at least three pounds of woolen, cotton or linen fabric.

The islands in and around Narragansett Bay: Block Island, Nantucket and Martha's Vineyard, became more or less overrun with sheep. These were good places to raise sheep since the Indians were no menace on these islands and it was difficult for the Crown agents to find out where the sheep owned by the colonists were kept. The colonists were now self-sufficient from raw wool to finished garments and the Crown could not understand how that was possible.

1669: Louis XIV and his able minister, Colbert, proclaimed "statutes for wool and silk dyers." This followed an earlier German scheme.

1680: About this time Indian uprisings in the south, southwest, and west drove out the Spaniards from many strongholds. The Indians remembered the teachings in animal husbandry from the missionaries who accompanied de Onate almost one hundred years before this time. They tended to their flocks and kept the industry alive and made it thrive, knew how to cross-breed and sold much of their wool to white traders each season. The foundations of the sheep industry remained in these areas and cross-breeding began to take on scientific aspects around the time of the War Between the States and shortly thereafter.

1681: Dedham, Massachusetts, joined Rowley and Watertown in fame with the establishment of a woolen mill.

1683: Mennonites from the Rhenish Palatinate settled in what is now Germantown, a part of the city of Philadelphia. Many of them were experienced in the textile field.

This marks the year of the Revocation of the Edict of Nantes. Thousands of Protestant workers, many of them textile, fled France. They scattered throughout Europe and the British Isles. This was a sad day for France since many of the nations to which these workers fled were soon to become competitors of their motherland.

1688: James II, England, prohibited exportation of un-dyed woolen cloth; he wanted to bolster home industries since Scotland was a close competitor of England and James wanted to stifle the Scots.

1693: First fulling mill for woolens in Connecticut.

1695: First worsted mill in America; established in Boston.

1696: Ireland was exporting wool and cloth to about every

(*please turn page*)

Queen Elizabeth: She banished Teuton Traders from England in 1578. threw open the doors to refugee Flemish weavers in 1585.

Dictator Cromwell: He forbade exportation of sheep, raw wool or yarn to the American Colonies from 1654-1658.

nation except England. Their business was very good. England had forbidden the acceptance of Irish fabrics there. The flax and linen industry, which England tried very hard to promote, was a dismal failure. England, as a gesture, thought it would be well for Ireland to take over the industry but there was a method in their madness. Ireland did take over the industry and has made a grand success with both flax and linen. England now forbade the Irish to export wool or cloth to any nation. Irish goods found in England were to be confiscated. The Irish Legislature had to pass laws of the English Colonial Office under duress which injured the Irish to considerable degree. The Lord Deputy, a Home Office appointee, had the Legislature place heavy export duties on Irish raw wool and woolen cloth "which Irish weavers could make cheaper than could be made in England." This action caused an exodus of Irish workers that seriously crippled business.

1698: Parliament passed the "Woolen Act." This forbade shipment of wool from the American Colonies to England, this, despite the fact that England was searching elsewhere for raw wool.

XVIII CENTURY

A prodigious era in the development of textile inventions.

EIGHTEENTH CENTURY: Many European nations became interested in flax and linen. Courtrai, on the famous Lys River in Belgium, became the flax-retting city of Europe. It still holds this position despite the ravages of wars fought in that area. Flax retted in and along the Lys River is the best in the world.

1700: In France, Olivier de Serres and M. Laffemas, somewhat against the will of the great Sully, obtained royal edicts which favored the raising of mulberry trees on plantations and the cultivation of silk. Their plan was to increase employment opportunities for the peasants. Later on, Colbert gave much time and attention to the promotion of the silk industry and offered bounties for efforts made.

French textile workers went to Ireland by way of England and founded the linen industry there where it still flourishes. About this time, Louis Crommelin, a Huguenot weaver, made some important improvements in flax-raising and linen-processing.

First fulling mill in Pennsylvania.

Cotton goods were forbidden in England; wool and worsted fabrics were the choice because of deep-rooted tradition and the interest England had in the industry.

1707: Because of English pressure Scotland had now become a localized textile center since goods could not be shipped out of the country. Many textile workers left Scotland and went to northern Ireland.

1711: This year may be said to mark the demise of the woolen cloth industry in Ireland. The British, who had been having difficulty with the flax and linen industries, decided that they would compensate Ireland because of the tight hold that the English had in the woolen and worsted industries thereby transferring the bast fiber industry to the Irish. Ireland today produces the best workmanship in linen products.

1712: England passed another law against cotton which forbade the wearing of cotton fabrics in the British Isles.

1720: Ireland exported 240,000 yards of linen fabric valued at about 100,000 English pounds for a total value of about $487,000.

1730: John Wyatt, England, began to spin cotton by use of machinery.

1734: René Reaumur, the French scientist who discovered white opaque glass, who was interested in making tin, and has a thermometer named for him, tried to develop an imitation of the silkworm and spider filaments by drawing out a continuous strand of some waterproofed varnish. He met with little success but left the thought and foundation for future experimentation and research.

1738: John Wyatt and Louis Paul, England, invented drawing rollers to draft fibers so that yarn would be possible by machine methods.

John Kay, England, invented the fly shuttle.

John Wyatt and Louis Paul, England, received patents for the "perfection" of spinning machinery, the result of eight years' effort.

1739: Ten thousand pounds of silk cocoons received in Savannah, Georgia. Efforts were made to establish the industry there. There is a possibility that silk reeling might have been successful in time, but the arrival of Eli Whitney's cotton gin, about fifty-five years later, spelled the demise of silk culture in the South.

1742: First cotton mill built in Birmingham, England. Because of lack of power the mill was not a success.

1748: John Wyatt and Louis Paul, England, invented the revolving cylinder on a carding machine.

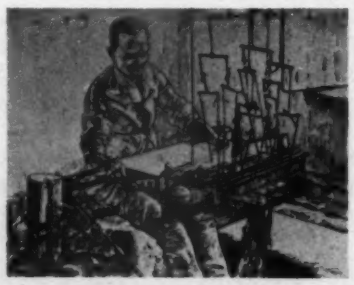
1753: South Carolina sent a few pounds of cotton to England.

1756: Cotton velvets and quiltings first made in England.

1760: John Kay, England, invented the drop-box loom.

1763: Spinning was now being done in practically every household in New England. Recalling the trouble that the colonies and England were having because of certain laws passed against the former, it may be gleaned that they were providing a program of self-sufficiency.

1764: James Hargreaves, England, invented the spinning jenny, named in honor of his wife. Drawing of the roving on the machine was done by means of the carriage on the frame.



Every country, every civilization, had its looms.

1765: Sheep from the colony of New York were now being exported to the West Indies for molasses, sugar, rum, etc.

The Stamp Act was passed and stipulated many things most disagreeable to the colonists here. The populace was forbidden to wear imported fabrics; by this time, however, the colonists were doing very well in providing their own garments from wool raised here.

1766: It became common to hold spinning sessions in the State of Rhode Island and Providence Plantations.

The Frenchman Reaumur: His experiments with filaments were a step in the development of rayon.

The American Washington: Wove at least one yard of woolen cloth daily at Mount Vernon.

1768: George Washington had at least one yard of woolen cloth woven daily on his hand looms which, incidentally, may still be seen at Mount Vernon.

The commencement exercises of Harvard College were highlighted by the fact that all graduates wore Colonial-made fabrics.

1769: Graduates of Rhode Island State College, at Kingston, wore Colonial-made fabrics on commencement day.

Sir Richard Arkwright, England, invented the spinning frame which did its drawing by means of rollers on the frame.

1770: George Washington imported merino rams to increase his flock in Mount Vernon, Virginia.

1771: Robert Frost brought forth a machine for making coarse, square net; used in making wigs.

1772: The first American woven broadcloth was exhibited in Philadelphia. By this time the colonists were cooperating to the fullest degree with each other since the Stamp Act seemed to weld all the people into one homogeneous group. Contests and competitions were held locally in carding, spinning, weaving and cloth finishing, etc.

John Lee, England, invented the feeder device for carding frames.

1774: England passed a bill to prohibit the exportation of cotton textile machinery.

Edmund Cartwright, England, invented the power loom and the comber frame.

1775: Axminster carpet first made in Axminster, Devonshire, England.

Sir Richard Arkwright, England, obtained a second set of patents for carding, drawing, and spinning.

The people of Philadelphia gave up eating lamb in order to conserve sheep so that the wool might be used for yarn to make clothing for needy soldiers and civilians for the approaching American Revolution.

Patents were taken out for the first warp knitting frame.

1776: There were only four guilds functioning in France.

1779: Samuel Crompton, England, invented the mule spinning frame. The machine was made from a combination of ideas from the spinning jenny of Hargreaves, and the spinning frame of Arkwright. Drawing of the fibers was done by the carriage idea of Hargreaves, and the roller plan of Arkwright; thus, the name mule was given to the machine, a hybrid. Mule spinning still exists today.

1780: George Washington visited a woolen mill in Hartford, Connecticut. He commented on the superb quality of the broadcloth made there.

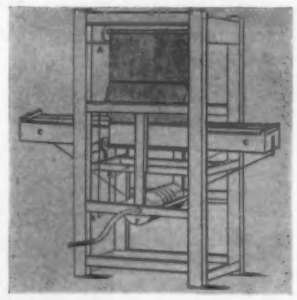
A few sheep were brought to Australia by settlers from England.

1782: English officials, apparently at the behest of woolen merchants, began to protest against the use of cotton machinery which had recently been installed in England. Cotton was looked upon with disfavor and some people saw that the rise of the cotton industry would seriously affect the well-founded woolen and worsted industry. Time, however, proved that both could survive.

1783: Bounties were granted by England for the export of certain cotton goods.

1785: About this time efforts were made to begin sericulture in Gurleyville, Connecticut. This is the first recorded instance of bounties being actually paid in this country for efforts expended in the raising of silkworms.

Edmund Cartwright, England, received a second set of patents for the power loom. He also invented the warp stop-motion on a loom.



Cartwright Loom — according to Patent Specifications in the year 1785.

1786: Ipswich, Massachusetts was a lace making center in this country.

Louis XVI, King of France, bought 380 merino ewes from Spain. He desired to establish a high grade sheep industry.

1787: John Kendrew and Thomas Porthouse, in Darlington, England, obtained patents on new machinery for the linen industry. The first machine frames were water-driven; around this time, the use of steam came into being. England and Scotland adopted its use.

1787-1791: George III bought some merino sheep for England and wanted to improve the breed of English sheep.

1788: It is interesting to note that there were at this time over 300 laws pertaining to the woolen and worsted industry in England.

The American woolen industry, following the Revolutionary War, was now well established.

First cotton mill built in this country, Beverly, Mass.

Bissell, American, invented roller gin for ginning cotton.

1789: Sea Island cotton was first planted in the United States.

Samuel Slater imported the first cotton machinery from

(*please turn page*)

England. It was brought to New York City.

Captain Waterhouse, a native Australian, returned there from a voyage to the Cape of Good Hope with 29 merino sheep.

1790: Samuel Slater built his famous mill and began operations in the cotton textile field, in Pawtucket, Rhode Island. Slater had to carry the plans for the machines, which he could not get out of England, in his head. His machines built here were made from his memorative powers. Incidentally, the Slater Mill is still standing and is now a textile museum, well worth seeing.

1790: James Watt, England, a great friend of Robert Fulton of steamboat fame, had patents for his steam engine as early as 1769. By 1790, steam was being universally used in textile plants, here and abroad.

1791: Our annual cotton production was about 150,000 pounds.

Guilds had been liquidated throughout France and were now only memories.

1791-1810: America shipped 400 bales of cotton to Europe. In 1800, after the cotton gin of Eli Whitney became an actuality, close to 30,000 bales went to England and the Continent; by 1810 the number of bales was close to 180,000. There were now more than one million slaves in this country because Cotton was now King.

1792: Kirk and Leslie, Americans, received patents for the first American loom.

Eli Whitney, one of America's great inventive geniuses.

1792-94: Eli Whitney, American, invented the saw gin for the ginning of cotton.

1792-1801: Joseph Marie Jacquard, France, invented his famous Jacquard loom which made it possible to control each and every warp end so that it could be raised or lowered at will to form intricate design. He was a friend of Napoleon who decreed that a pension be given him in his later years of life.

1793: The first American-built wool carding machine was made in Newburyport, Massachusetts. It was set up in a mill in the village of Byfield.

Three pedigreed merino sheep were sent to Andrew Craigie of Cambridge, Massachusetts, by William Foster, a Bostonian who obtained the sheep in Spain. Mr. Craigie, not knowing the value of the sheep, had them slaughtered and used as food. Ten years later this same Mr. Craigie paid one thousand dollars for one ram.

1794: Byfield, Massachusetts, is known in textile history for the first mill to be run by water power.

Cotton production, because of Eli Whitney's invention, rose to about six million pounds.

Captain Macarthur, an army officer, noted that there were only a little more than 500 sheep in all Australia. He was much interested in animal husbandry and saw the great possibilities of sheep-raising there.

1797: Captain Macarthur began cross-breeding sheep in Australia and purchased various types of rams and ewes. He watched his efforts closely and saw that Australia could become a world wool-raising area.

1799: About 200 merino sheep from Spain were added to those bought by Louis XVI in 1786. These sheep were the nucleus for the present Rambouillet merino breed of sheep, Class One wools in wool grading. These Rambouillet are the pride of France in merino wool circles since they cope with the Saxony and Silesia breeds of Germany and Austria.

1800: Ireland's exports in linen fabric reached 25-million yards.

Progress was now being made in our own Southwest with sheep. Churro, the low grade sheep left there by Coronado and de Onate, had continued to multiply. These descendants of the original sheep were now being cross-bred and the quality of the wool was being improved.

Knitting machines were used by the thousands in Europe.

Londonderry, Vermont, and Germantown, Pennsylvania, began to build up textile home-industry into a textile-machine era. By 1815, these two centers well-known for their linens, woolen knit goods, and woven fabrics.

1802: Chancellor Robert R. Livingston sent six rams and a flock of Rambouillet sheep from France to his estate on the Hudson river. Cross-breeding produced good results. His "Essay on Sheep" is the first paper written about sheep husbandry in this country.

Colonel David Humphrey, American, sent 100 choice merino rams from Lisbon, Portugal, to Derby, Connecticut. Nine died on the way over but the nucleus served as the basis for the present merino sheep industry in this country. Ohio is now the center of this industry.

1803: Captain Macarthur visited London with some samples of his Australian wool and with some help, set up plans for the colonization of Australia. He promoted the Pastoral Company of English Investors to aid him. He returned, because of his pioneer promotion work, to Australia with five rams and one ewe of the Royal Merino Sheep Flock. Thus, the birth of the merino sheep in Australia was now assured.

Radcliffe, Ross and Johnson invented the warp dressing frame and warping machines, in England.

1804: First cotton mill in New Hampshire established in Ipswich.

The first wool spinning machine in operation at Peacedale, Rhode Island.

1805: First power looms successfully operated in England.

When did Samuel Slater build his famous mill? . . . What textile inventor was a friend of Napoleon? . . . In what year did the price of merino wool rise from $1 to $4 a pound? . . . What part did trousers play in the American revolt of 1812 against the British?

1806: First cotton mill established in Connecticut, in Pomfret.

1807: About 250 pounds of Australian merino wool reached London; eagerly sought, high prices were paid for the small shipment.

1808: Lonsdale Manufacturing Company, founded in Lonsdale, R. I. Still flourishing.

The king of Spain sold 2,000 of his best merino sheep to England because it was feared at the time that the armies of Napoleon would overrun the country. Other favored nations were also able to obtain some of the prized merino flocks. This laid the foundation for the world-wide merino sheep industry.

Schofield, Britisher who adopted America as his home, owned a woolen mill in Massachusetts. He was a leader in the field and President Monroe, at his inauguration, wore a broadcloth suit made by the Schofield mill. Broadcloth became the vogue in apparel.

1809: John Heathcoat invented the bobbinet lace-making frame.

First cotton mill built in Maine, in Brunswick.

1810: Napoleon became a patron of the flax and linen industries. Philippe de Gerard was the winner of a prize offered by the Emperor for improvements made in machinery to be used in linen manufacture. Although de Gerard soon passed into oblivion, his ideas and efforts laid the foundation for the types of machinery used in linen manufacture to this day.

William Jarvis, U. S. Consul in Lisbon, sent 4,000 merino sheep to his home in Vermont. Within a year this state was the leading merino area in the nation.

1811: De Witt Clinton, Governor of New York, decreed that the Senate of the state appear in the next session in cloth made of American manufacture.

1812: First cotton mill established in Fall River, Massachusetts.

Merino wool, because of the embargo, now sold for three dollars a pound in the grease state. Our own embargo acts on foreign products did much to strengthen the textile industry here.

1812-1815: The introduction of trousers was an outgrowth of the War of 1812. The garb was worn as a revolt against British imperialism, which was accentuated by knee breeches.

1813: John Levers perfected a machine able to make practically all types of lace.

Francis Lowell invented a power loom, Waltham, Massachusetts, the city where the first complete mill — from raw material to finished fabric — became an actuality in this country.

Horrocks, England, made improvements on the warp dressing frame.

1814: Creighton, England, devised a cotton opener with lap attachment.

1814: The textile industry in this country had become such an important factor that merino wool had a rise in price from one dollar a pound to about four dollars per pound. The price of a merino ram increased from about $500 to $1500.

The Merino Society of London was formed and established the merino breed of Australian sheep; this was a powerful organization.

1814-1835: The last remnants of the English cloth guilds disappeared. The guilds were not able to cope with the men, material, machinery and money in the Factory System.

1815: With the War of 1812 declared a stalemate and closed, British manufacturers began to come into our markets, thereby causing a drop in prices. Sheep raising began its decline.

Vermont, Massachusetts, and Pennsylvania had the bulk of the sheep in this country. The Du Pont family of Delaware, around this time, had a flock of about 4,500 sheep. 746 were of the pure merino type.

1816: M. I. Brunel invented the circular knitting machine.

1816: Ira Draper, Hopedale, Mass., invented the loom temple.

1818: Holt was working on machinery to prepare cotton sewing thread.

Medway, Massachusetts became the home of the first machine-made lace plant in America.

Ira Draper, American, invented the self-moving temple. This invention enabled a weaver to run two looms instead of the customary one loom.

1819: George Rapp, founder of the "Cooperative Colony" in Harmony, Indiana, fostered what is known at present as the Ohio-Delaine breed of sheep; still the best wool raised in this country.

By this time the sheepfolds of Mr. Jarvis of Vermont had been greatly augmented by offspring and importation of more sheep from Portugal and Spain. The breeds were being constantly improved. Rams were worth $1,500 a head.

1820: Our cotton production approximated 125 million pounds.

1821: Ireland's exports of linen reached 43-million yards of fabric; spinning of yarn and weaving of fabric were done by hand and not by machine.

About 325 bales of Australian wool brought high prices in the London market.

An old engraving, showing carding, drawing and roving in Samuel Slater's mill.

1822: First cotton mill in Lowell, Massachusetts.

1823: Nashua Manufacturing Company founded in Nashua, N. H.

First power loom in operation in this country, Southbridge, Massachusetts.

Arnold, American, brought out the differential motion on a roving frame.

(please turn page)

1824: Danforth perfecting his speeder frame for cotton manufacture.

1825: There was formed in England a public company that was incorporated under the name of the British, Irish, and Colonial Silk Company with a capital of one million dollars. Ireland was chosen for sericulture but the enterprise was a complete failure.

Roberts, England, obtained patents on the self-acting mule frame.

The opening of the Erie Canal gave increased impetus to the textile industry.

New Bedford, Massachusetts, was a great cotton center and referred to as the "Bolton of America."

Wet-spinning method of spinning linen yarn begun in Ireland. This sounded the death-knell which was, however, to take much time, for the hand-processing of flax into linen yarn.

1827: First flax-spinning plant begun in Ireland.

1828: The famous Henry Clay Tariff made the raising of sheep and the manufacture of cloth profitable enterprises here.

The English now recognized the fact that Australian wool was superior in all qualities and characteristics when compared with British sheep; this wool went into the best of English fabrics.

Thorp, England, obtained patents for his ring spinning frame.

First steam-driven flax spinning mill built in Belfast.

1829: Danforth, England, brought out his cap spinning method for spun yarn.

1829: Draper further improves his temple for the loom.

Johannes Schwarzenbach founded the concern now known as Schwarzenbach Huber Company. Mill established in Thalwill, near Zurich, Switzerland. By the end of the 19th century, Schwarzenbach enterprises were in England, France, Germany, Italy and this country. First American plant established in Hoboken, N. J.

1830: Australia became decidedly merino-wool conscious and the saying was "Put everything in four feet." At the present time, this energetic country produces about one-quarter to one-third of the world's supply of wool and eighty-five percent of it is merino stock. About one-sixth of the sheep in the world are raised there.

Roberts invented the quadrant for the mule spinning frame.

Josué Heilmann, Alsatian, invented the single-nip type of combing machine. He conceived the idea from watching his daughters comb out their hair.

Patents taken out for the first circular knitting frame.

1831: Indian Head sheeting, a brand name still used today, made its appearance.

1832: Bachelder invented stop motion for drawing frame.

1833: Mason brought out spinning frame improvements.

The opening of the Ohio Canal afforded expansion for the textile industry.

The famous Cheney family of silk culture began experimenting with silkworms and the manufacture of silk; in South Manchester, Connecticut.

Cotton cloth in its meteoric rise in England now exceeded the production of wool fabric. Wool, at this time, did not seem to be well adapted to mechanical handling from raw material to finished material.

1834: Reid and Johnson, England, developed the shuttle-changing loom.

1834: Ramsbottom and Hope developed a feeler stop motion for filling yarn on a loom.

1835: Brussels carpeting, because of cheaper labor costs when compared with the labor costs for Axminster carpeting, began to replace the latter in popularity. Axminster had waned to the degree that what remained of the industry because of the Belgian competition, was moved to Wilton, England.

1837: Cheney Brothers established a mulberry tree plantation in New Jersey. The panic of that year spelled defeat for the project.

Following the panic of 1837, people were groping and grasping for work of any type. The nation was in chaos. Samuel Whitmarsh, Philadelphia, Pennsylvania, was a leader in the movement toward sericulture. He, with his associates, reported great possibilities from the South Sea island mulberry trees for feeding silkworms. In a very short time, plants and crops were sidetracked for this "eighth wonder of the world" — the multicaulis tree. In Pennsylvania alone over $300,000 changed hands in one week in the purchase of the trees. By 1839, the famous wildcat, morus multicaulis, was found to be no golden tree but merely a dried-up shrub. This venture is one of the outstanding examples of American gullibility to become rich over night.

Stünzi and Sons, a well-known silk concern now over 100 years in operation, founded in Switzerland.

1838: Stünzi and Sons silk fabrics appear in New York and London.

1840: Over eleven million sheep in this country.

First loom for weaving fancies invented by William Crompton, American. The loom could make from 45 picks to 85 picks a minute. Crompton, along with Lucius Knowles, established the famous Crompton-Knowles Loom Works, Worcester, Massachusetts. Their power loom plant spelled the decline of hand looms in this country. Erastus Bigelow was also an outstanding loom inventor of this period. These three men put American weaving on a par with that done in British mills.

Horace Wyman, left, and George Crompton, right — they started the manufacture of looms in 1851.

Founding of Schwarzenbach-Huber, Cheney Brothers and Stunzi . . . Crompton, Knowles and Bigelow forecast decline of hand looms . . . Pacific Mills first with worsted machinery layout . . . first artificial fiber produced by Sir Joseph Swann.

1843: First worsted looms installed in a plant in Ballardale, Massachusetts. The first worsted cloth made was styled for the women's wear trade. Men's wear worsteds did not make their appearance until the time of the War Between the States, about twenty years later.

1845: German scientists mixed cotton cellulose with sulphuric acid and nitric acid; the result was the discovery of gun-cotton, a substitute for gunpowder. This cellulose nitrate, however, in time was to be the basis for what is now known as the nitro-cellulose method of making rayon, the first rayon yarn to be given to the world.

1845-1855: Emigration of many Irish linen workers to the Continent and the United States.

1846: W. W. Dutcher, American, patented the first parallel under-pick shuttle motion in use for many years for weaving fabric.

Elias Howe and his brother-in-law, General Nathaniel Banks of Civil War fame, invented the sewing machine, Massachusetts.

1848: American Silk Journal founded.

1849: First cotton mill built in Lawrence, Massachusetts.

John Mercer, England, discovered mercerization on cotton yarn and cotton cloth.

The California Gold Rush carried along further expansion of the textile industry.

1850: The British woolen and worsted industry was now fully mechanized. It had to be to cope with the inroads made by the popularity of cotton cloths.

There were sixteen hundred woolen plants, not counting fulling plants, in thirty-two states in the nation. Close to fifty thousand workers were employed, and the finished product was in excess of forty million dollars. Capital investment was twenty-eight million dollars.

Power knitting machines introduced in New York City. The Baily Company was the first plant to use these frames to make knitted underwear.

The beginning of the rapid growth of Ireland as a flax-linen country because of the installation of much machinery for processing flax fibers into linen yarns and fabrics. Power looms began to make their appearance in linen weaving mills. To this day, however, much linen is still made on hand looms.

1851: Donisthorpe and Lister, England, invented the nip-comber. Lister improved upon the invention and the machine today bears his name.

F. B. Knowles, left, and brother L. J. Knowles, right, entered the loom business in 1862.

1853: Holden and Lister, England, invented the square-motion combing machine. Lister made improvements on it and the machine now bears his name.

1854: Pacific Mills, Lawrence, Massachusetts, installed the first complete worsted machinery layout.

1855: George Audemars, Lausanne, Switzerland, used the extract obtained from alcohol and ether, and tried to bring out a combination of collodion and rubber. However, the mixing of mulberry bast with this extract did present the fact that a filament, in time, would be possible. And it would be based on the principle of coagulation. He gave further food for thought with regard to future research efforts in the field of what is now rayon.

1856: May be said to be the opening of the era for synthetic dyestuffs; centered about the famous English scientist, W. H. Perkin.

1857: A patent was recorded in England for a "glass-like fiber."

Snell and Bartlett, Americans, invented the let-off motion for looms. This Draper Corporation patent, improved and now known as the Bartlett Let-off Motion, is a standard motion used in weaving rayon; now automatic in detail.

German scientists dissolved cellulose in a copper-ammoniacal solution, now the basis for the manufacture of cuprammonium or Bemberg rayon.

1858: Townsend and Moulding, England, perfected the latch needle knitting machine.

Cooper and Tiffany perfected a spring needle for the knitting of ribbed-effect underwear. Prior to this time only the latch needle had been used. The knitting industry thus became well established in New York City.

1860: Sir Joseph Swan produced the first artificial fiber, but his chief interest was in the producing of carbon filaments for electric lamps; therefore, he was a true forerunner of Thomas Edison in this country. By 1880, Swan had produced filaments from paper and he improved his own methods by using cotton thread treated with sulphuric acid. He then adopted the use of collodion, as Audemars had done, by forcing it through very fine holes or orifices into a coagulation bath. By 1885, he produced crocheted fabrics made by his wife. Since his interests were not in the textile field, he was not interested in following up his efforts along these lines. His basic methods are still in use today in the rayon industry.

1861-1865: The need for uniform fabrics during the War between the States caused the rise of many woolen plants, chiefly in New England and in the Philadelphia areas.

1862: The cross-breeding of sheep in the southwest was taking on impetus. The land-grant laws aided in opening up the tracts of land and many became interested in sheep breeding.

1863: O. U. Lamb, American, produced the first flat-bed knitting frame for wide knitting.

George Draper, American, perfected the frog-with-loose-steel device which was first made as an attachment for Mason Looms and later applied to looms made in this

(*please turn page*)

country. By decreasing the movement required of the binder it greatly improved the boxing of the shuttle.

Japan first exported raw silk. Business amounted to 3-million dollars. In 1929 the value rose to 381-million dollars.

1864: William Cotton took out a patent for shaping knitted garments at the time of manufacture; the heel and the toe could now be made on specially-constructed machines.

1865: California came forward with the well-known and time-worn idea in this country for the raising of silkworms. Laws were actually promulgated. Bounties and premiums were offered to those who would venture into the silk industry. However, the laws were soon repealed because of opposition.

The acetate radical, acetyl, was combined with cellulose to form cellulose acetate, now the basis for the manufacture of cellulose acetate rayon yarn.

1867: Men's wear worsted cloth first used in apparel.

1868: Metcalf, American, produced the first practical self-threading shuttle. This development for the Draper Corporation has much to do with the demise of the "kiss of death" practice of threading a shuttle by sucking the filling through the hole in the side of the shuttle.

Synthetic alizarine-red coloring introduced.

John W. Hyatt, Albany, New York, when there was a shortage of ivory for billiard balls, hit upon the method of mixing cellulose nitrate from cotton linters and nitric acid, with camphor. The product was called Celluloid, the first commercially accepted plastic. Used later for collars, cuffs, shirt fronts, window curtains for early automobile models; when colored pink, it was widely used to replace hard rubber in making denture plates.

1869: Carroll, American, devised the double-flange ring, an original Draper Corporation design now furnished by all leading ring manufacturers.

Mandin and Schutzenberger experimented with what, in time, was to become acetate rayon.

1872: Another attempt was made in California to make the state conscious of the great possibilities in the field of silk. A bill was presented but it failed passage.

Forty-three leading silk executives met in the Astor House in New York City to form The National Silk Association. This June meeting was for the purpose of establishing the silk industry on a firm basis, to win the respect of the customer, and to combat some of the abuses to which the industry was being subjected. John Ryle was the first president; Ward Cheney, vice-president, and Franklin Allen, executive secretary.

Silk was beginning to emerge into its period of greatest glory . . .

The original idea of this outstanding group which has contributed so much to the entire textile industry in this country, was an interchange of ideas, increase of information and harmonious action to promote and foster the trade.

This organization now functions as the National Federation of Textiles, a great credit to the textile industry.

The National Silk Association was established with five major divisions:

a. Raw silk importers, dealers and brokers.
b. Throwsters of gum silk.
c. Throwsters of sewing silk and twist.
d. Weavers and dyers.
e. Makers of trimmings, fringe and braid.

1873: Name of The National Silk Association changed to Silk Association of America. A campaign was launched against the adulteration of silk, the first collection of industrial statistics and data was made and American silk products were displayed at the American Institute exhibit.

1875: Moquette, the French "tufts-of-wool" carpeting made its appearance in the trade. This rib-back fabric, with a deep, tufted-pile capable of splendid color treatment, is of American origin. Moquette is now in the Axminster-type of carpeting.

Because of the great interest in knitted fabrics by this time, the knitting industry began to take on major proportions in this country.

1878: Rabbeth, American, produced a spindle which made ring spinning of yarn practical by doubling the spinning speeds.

1880: United States Testing Company founded in Hoboken, N. J.

There were almost sixty grades of cotton standardized and raised in this country.

First silk conditioning house in this country was established. At this time, unfortunately, conditions were not ripe to bear much fruit. Interest was lacking; this, however, was only for a short time and it was not long before silk conditioning was on a firm basis here.

1882: American Silk Journal made its debut under the auspices of Clifford and Lawton; a carry-over from the original journal of 1848.

The campaign against adulteration of silk continued with increased fervor.

1883: Stünzi and Sons open silk plant in Horgen-Zurich, Switzerland.

Textile School established in Philadelphia, Pa.; now known as Philadelphia Textile Institute, Richard S. Cox, Dean at present.

1884: Rayon production established in France.

1885: In December, the Wilkes-Barre Lace Company made the first pair of lace curtains to be produced in this country.

1885-1889: Count Hilaire de Chardonnet, Besancon, France, used the extract of mulberry leaves from which he gradually built up an artificial silk, the forerunner of rayon of today. His cloth, made from the filaments developed by him, was on display at the Paris Exposition in 1889. The efforts of Chardonnet, who was an aristocrat, scientist, philanthropist, and human benefactor, covered a span of

When was California proposed as silk center? . . . Who made first pair of lace curtains in U. S.? . . . What great scientist and human-benefactor is known as the Father of the Rayon industry? . . . When was rayon yarn first knitted into hosiery?

thirty years' work. He was a student of Louis Pasteur, the Saviour of the Silk Industry. Chardonnet is known as Father of the Rayon Industry. In 1891 Chardonnet built his first commercial plant in Besançon. The method he used at the time is still called by his name.

1889: Silk Association of America took up the cudgels against misbranding of non-silk fabrics. Names such as "sansilk" and "cilk" gave the buying public certain misgivings which did not aid the basic objectives of the Association.

1890: United States Department of Agriculture began to take vital interest in the flax-linen industry. Original research and work done in the states of Michigan, Minnesota, and Oregon. Incidentally, Oregon is the "flax state" of the Union today.

1890-1894: C. F. Cross and E. J. Bevan, English chemists, used ammoniacal copper oxide to dissolve cellulose, a great aid to the coming rayon industry. About this time, the cellulose acetate method of making artificial silk was given to the world. This method, however, cellulose acetate rayon, did not come into its own until after the close of World War One.

1890-1897: In 1890, L. H. Despaissis, French chemist, patented the making of artificial silk by the Cuprammonium Method. However, it was not until 1897 that Dr. M. Fremery, and the engineer J. Urban, who had used cuprammonium in making carbon filaments, succeeded in making artificial silk. Their patent was obtained in Germany in the name of Doctor H. Pauly; now used as the J. P. Bemberg Method.

1893: Over sixty-three million sheep in this country.

Experimental work done on producing glass fibers to simulate silk filament; the filaments were combined with silk filament in order to weave fabric on a loom.

1894: Cross and Bevan made further strides in the perfection of the acetate rayon filament.

1895: Cross and Bevan, England, developed the viscose method of making rayon.

Arthur Little, in this country, made progress that coped with the work being done by Cross and Bevan, in England.

Northrop, American, developed the first automatic bobbin-changing loom in the world. This loom, incidentally, was made for the Gaffney Manufacturing Company, Gaffney, South Carolina. Restored to its original condition by the Draper Corporation, Hopedale, Massachusetts, in 1941, the loom is now in the Smithsonian Institution, Washington, D. C.

A natural resin, shellac, produced from the insect mica, found in Asia and Southern India; used to make phonographic records.

1896: The fight against silk adulteration still continued in this country. Arbitration work begun by the Silk Association of America.

1897: Textile School established in Lowell, Mass.; now known as Lowell Textile Institute, Kenneth Fox, present Dean.

1898: C. H. Stearn, England, improved the method of rayon yarn manufacture on the viscose system.

Cuprammonium rayon process originated in Germany.

1899: Textile School established at North Carolina State College, Raleigh, N. C., Malcolm Campbell, present Dean.

Several viscose plants in operation in England.

1900: Silk Association of America issued Statistical Yearbook for which there was a definite need felt in the trade. Soak testing of silk was proposed by the Association which also campaigned against defective twist in Japanese silk.

Dr. E. Bronnert established the first Cuprammonium Rayon plant in Oberbruck, Germany. He had improved the work done by Despaissis, Fremery and Urban. This is now the Bemberg Stretch System Rayon.

1901: Italians and Japanese adopt standard American silk skein designed to meet the needs of high-powered machinery.

1902: Silk Association of America obtains the first single first-class freight rate for the industry.

Stünzi and Sons build silk plant in Lyons, France.

C. F. Topham and C. H. Stearn invented the rayon spinning box and this culminated prior efforts in the field and assured success in what is now known as rayon yarn manufacture.

1903: "Artificial silk," now known as rayon, being made in England.

1904: Silk Association of America awarded a special prize for gathering world wide statistics at the St. Louis Exposition.

1905: The first patent rights for the viscose method of making rayon were obtained by the General Artificial Silk Company, of Lansdowne, Pennsylvania. This company produced about 500 pounds a day for about four years. The company failed in 1909.

1907: The first fair trade practice rules adopted in this country. The Silk Association of America set-up the first United States Silk Conditioning House. This culminated efforts of twenty-seven years on the part of the Association.

Emil Fisher, German chemist, synthesized the molecule, protein-like in content, with 1,326 atoms.

1908: Imported rayon yarn knitted into hosiery by American knitting mills.

1909: Dr. Leo H. Baekeland, Belgian chemist who had come to this country, experimented with phenol (carbolic acid) and formaldehyde while seeking a better material than shellac. His results produced a resin that could be cast to desired form, as well as compounds that could be molded under heat and pressure into a variety of products. Dr. Baekeland also produced laminating varnishes and fillers with improved or additional properties.

Organization of the American Viscose Company, Marcus Hook, Pennsylvania. First shipment of rayon was made in 1911. Today, this company is one of the major rayon producing companies. In 1911, it was the only producer of Viscose and its production totalled about 375,000 pounds. At present, it is over 300 million pounds annually.

The New York Conditioning Works merged with the U. S. Silk Conditioning House; headquarters established at 340 Hudson St., New York City.

1910: This date marks the beginning of the machine-lace industry in this country on major proportions.

Campaign begun here to improve Chinese silk reeling.

(*please turn page*)

The great Rayon Era gets under way, based on the principle of transmuting a solid, cellulose to a liquid spinning solution . . . to filaments.

1911: Rayon first produced in this country by the late Sir Samuel Salvage.

1912: American knitting mills making hosiery from domestic rayon.

Silk Association of America approved Fair Trade Practice Rules for broad woven goods. Because of the trend to move the silk industry to mid-city, the Association's home was 354 Fourth Avenue, New York City.

1914: A point in Cotton is one one-hundredth of a cent. The maximum rise or fall in the price of cotton in one day is 200 points or two cents per pound. If the market opens up 200 or more points, either way from the closing price of the previous day, the Cotton Exchange closes for the day. This actually occurred in the beginning of World War I, August, 1914; the time that the Prinz Eitel Friedrich and the Krone Prinzessin Cecilia, German liners put into Portland, Maine, for internment rather than run the risk of making their home ports. This action created a furore in this country. The exchange was again closed in March, 1933, when all business, it may be stated, was temporarily suspended and banks closed their doors for adjustments and return to normal conditions. This was one of the first acts of the late President F. D. Roosevelt.

Stünzi and Sons open their plant in Reading, Pa.

1916: Silk Association of America wins second freight rate victory by obtaining a ruling from the Interstate Commerce Commission requiring carriers to establish rates based upon released values.

Consolidated Freight Classification prohibited the shipment by freight of raw, spun, thrown silk and silk yarns. The Association was granted an injunction by the U. S. Court of Appeals and shipments were allowed to continue.

A Silk Classification program inaugurated.

1917: Rayon was used in knitted outerwear and underwear for women.

1917-1918: Silk Association did outstanding work to coordinate the fine fabrics industry with the war effort. The Association founded the Textile Transit Insurance Company.

United States Tariff Commission formed.

1918: Courtaulds Limited began the manufacture of Fibro, a new rayon staple fiber.

Postwar I Period

1919: Following World War One, there were many chemical plants which had enormous stocks of cellulose acetate on hand. The famous Dreyfus Brothers, Camille and Henri, used great ingenuity and skill to perfect acetate filaments. Today, there are Celanese plants in England, the United States, Canada, Italy, France, etc. The Dreyfus Brothers had the problem of what might be done with cellulose acetate, which during the War was used as "dope" for covering airplane wings. They solved the problem to perfection. Acetate rayon first produced in this country.

Casein plastic introduced commercially in America; made from protein of skim milk reacted with formaldehyde.

Shipments of silk piece goods, in excess of 25 pounds, in paper-wrapped packages prohibited.

Silk Association obtains a new ruling which permitted piece goods up to 40 pounds to be shipped in paper-wrapped packages.

United States Testing Company established — one of the most important spokes in the wheel of the great textile industry.

Japanese silk bales sold for $2200 — an all-time high. In 1929, the year of the crash in world markets, U. S. Steel sold for $260 a share, and a bale of raw silk sold for $700.

1920: The rayon department of E. I. du Pont de Nemours & Co., Inc., of Wilmington, Delaware, was established in Buffalo, New York.

In conjunction with the Tubize Chatillon Corporation of Belgium, a plant for making nitro-cellulose rayon was established in Hopewell, Virginia. This project has since been abandoned by the du Pont Company.

The National Artificial Silk Company was formed about this time, by local interests in Cleveland, Ohio. Following some changes, this going concern is now known as the Industrial Rayon Company.

About this time the first acetate yarn to be made in this country was produced in East Boston, Massachusetts. This product was made by the Lustron Company. This organization later became the Celanese Corporation of America, a major acetate rayon company today. Its main plant is in Cumberland, Maryland. The Dreyfus interests of England control the Celanese Corporation of America, as well as the British Celanese Corporation of England.

1921: First International Silk Exposition — still remembered and discussed — a marvelous exhibition.

First American Silk Mission sent to Japan.

In November, the first meeting of the American Association of Textile Chemists and Colorists held in the Engineer's Club, Boston, Mass. Dr. Louis Olney, Lowell Textile Institute, became chairman of the Organizing Committee and, at this meeting, was elected the first president. American Dyestuff Reporter was chosen to carry news and papers to all members.

Who coined the word *Rayon?* . . . and When? . . . Enka . . . North American Rayon . . . Bemberg . . . Teca . . . What rayon company was founded in the 1920's? What are the first research steps which led to the development of nylon?

1922: In January, AATCC formed its first sub-committee of the Research Committees. This committee was authorized to proceed with a study of fastness to washing of dyed and printed cotton fabrics; to formulate methods of procedure and to establish proper standards to indicate the degree of fastness. The Committee has worked on washfastness ever since and the end is not yet in sight.

Second International Silk Exposition held in New York City; 51st annual dinner held under the aegis of James A. Goldsmith, president and Ramsey Peugnet, secretary.

U. S. Supreme Court upholds the powers of the Federal Trade Commission to act in cases of mis-branding textile materials.

Second National Silk Week held in New York.

Silk Association sends $21,000 to the University of Nanking for the establishment of sericulture buildings to promote the use of Chinese silk in this country.

Sales directors group formed for the purpose of preventing trade abuses and encouraging the use of uniform sales contracts.

New York enacts law which recognizes commercial arbitration; added much impetus to the work that had been done by the Silk Association of America for twenty-five years prior to this enactment.

Stünzi and Sons convert the famous old castle, Chateau de Faverges, in France to house 150 mill workers.

1923: James A. Goldsmith headed the Second Silk Mission to Japan.

Japanese earthquake created serious crisis in raw silk trading; trading suspended pending collection of pertinent data by Dr. D. E. Douty, president of U. S. Testing Company, Hoboken, N. J.

Silk Association sends over $400,000 to stricken Japanese following a one-week campaign.

The first rules anent thrown silk adopted.

Uptown Credit Group established in New York City.

Commission Silk Throwsters organized here.

In December, AATCC had grown to 600 memberships which covered 23 states and several foreign countries.

1924: Kenneth Lord, Sr., of the fabric firm of Galey & Lord coined the term which today is worth millions — rayon. The name was adopted by all rayon-producing nations.

Rayon adopted as a generic term for "chemical yarns." Silk Association polices world industry to prevent private use of the word, rayon.

Reorganization of the Raw Silk Classification Committee established to prepare standard methods in grading of raw silk.

Velvet manufacturers form organization.

Silk Association establishes Examination Bureau for impartial examination of goods in trade disputes. This Bureau does yeoman work for the industry, particularly since the close of the late war.

1925: Silk Association inaugurates program for standardization of Government purchasing specifications in cooperation with the National Bureau of Standards. New home of the Association located at 468 Fourth Avenue, New York.

1925-1929: New concerns came into being in the field of rayon —

A. American Enka Corporation, affiliated with Dutch interests.

B. North American Rayon Corporation.

C. American Bemberg Corporation.

In 1927 and 1928 the Viscose Company and the du Pont Company decided to supplement their production of Viscose rayon with additional production of rayon acetate.

The Eastman Kodak Company of Rochester, New York, in conjunction with Tennessee Eastman Company and the A. M. Tenney Associates of New York City, began to make acetate rayon. The product is now known as Teca — Tennessee Eastman Cellulose Acetate.

1926: Franklin Rayon Corporation founded in Rhode Island — Royal Little and Eliot Farley.

First industry-compiled data available for the rayon industry.

First raw silk classification and standard methods of testing provided by the Silk Association of America.

First attempt to standardize washing and dry cleaning instructions for silk.

1927: AATCC sent Dr. E. H. Kilheffer abroad to confer with English, French and German committees in an effort to perfect fastness tests which would be international in scope.

First acetate rayon and rayon crepes made in Europe.

Alkyd and Aniline Formaldehyde made their appearance, plastic resins.

Cellulose Acetate appeared on the market, plastic resin.

Vinyl resins produced on a commercial basis by Carbide and Carbon Chemicals Corporation, Buffalo, New York.

New rayon cloths, new techniques and developments.

1928: Stünzi and Sons introduce Tacca crepe in this country.

Design Registration Bureau established.

Inter-trade investigations of effects of weighting on silk.

The British Celanese Corporation built the plant of the American Celanese Corporation near Cumberland, Maryland. The name of the locality, three miles from the city, is Amcelle. Soon many other cellulose acetate plants came into being.

The E. I. du Pont de Nemours & Company, Inc., began fundamental research in the "how and why of molecules." Efforts were being made to determine how these building blocks of nature unite to form "giant molecules" such as those found in cotton, silk and rubber. This research gradually developed into what is now nylon.

Rayon staple fiber made its debut in the textile industry.

(*please turn page*)

1929: Termination of high silk prices.

Second International Technical Raw Silk Conference held in New York. Consisted of twenty-one sessions and 85 papers read in English and Japanese.

1930: Research Committee set up by the Silk Association of America. Studies begun on the Production and Distribution of Broad Silks and Rayons.

Color Coordination Committee established here.

Silk Association of America launches campaign among plants promulgating formula of 2.5 to 1 (monthly stocks to average monthly sales).

Japanese Raw Silk Association decides to begin silk promotion campaign suggested by the Silk Association of America, 1927.

du Pont chemists created a new synthetic substance from which crude filaments could be drawn.

Great strides made in the Arizona cotton belt for improvement of the staple. Sakellarides, the well known Egyptian cotton, was crossed with the prominent Pima staples of this country. The resultant cotton, known as SXP, gives greater yield per acre than the high grade Pima.

Urea-Formaldehyde came to the attention of the public, plastic resin.

1931: Silk Association of America saves industry one-million dollars by securing a three-dollar per 100-pounds reduction on transcontinental freight rates.

Standard method for Examining Broad Silks published for first time.

Silk Association helps manufacturers to set up the first standard system for the numbering of spun rayon yarns.

Year-long studies made of wearability of pure dye and weighted silks.

Design Protection Association formed in New York.

Fashion Service begun; women particularly became fashion-conscious because of the work begun by the fashion pioneers in 1927.

Cluett Peabody & Co. sets up licensing agreement whereby textile industry everywhere can benefit from Sanforized Compressive Shrinkage.

Acrylic came on the market, plastic resin.

Owens-Illinois Glass Company and Corning Glass Works commenced research and experimentation in glass filaments. In 1938, these two companies combined to form the present Owens-Illinois Fiberglas Company. The two original companies turned in their holdings to the new company; the name Fiberglas, is registered by the Owens-Corning Fiberglas Corporation. The glass marble used in making Fiberglas, five-eighth of an inch in diameter, can be drawn out to a length of 102 miles in filament form. The fiberglas filament was perfected to the point where it would bend like rubber, could be tied into a knot, and woven in fabric.

Japan's silk crop paid for all of the cotton, coal, rubber and automobiles that Japan imported for later use in World War II. This gave the country a very good balance of trade. Two families, Mitsui and Mitsubishi, along with a Secret Society, controlled the wealth of the nation — the powers behind the throne. The Mitsui family was the wealthiest unit in Japan outside of the Imperial Household. The secret society was the Black Dragon.

The Mitsui family and its holdings were as large as the entire mercantile marine of France; this family had its own fleet of boats, the famous fleet that was turned into war usage by the Japanese when World War II came along.

Synthetic fibers caused a demand for silk by the people in this country. The Japanese, however, entered the synthetic field and at the beginning of World War II was second in world production. Nylon stockings did not come into the commercial world until 1940; hence, the reason for the rise in silk production in Japan.

1932: Cellulose Acetate Butyrate appeared, plastic resin.

At the bottom of the depression, and with Steel selling for $26 a share, silk dropped to $153 a bale on the Yokohama Exchange. Japan's farming population constituted about 40% of the people or two-million households, all engaged in the cultivation of very small farms devoted almost exclusively to sericulture by virtually unpaid labor.

Silk drops to $153 a bale in the 1932 depression . . .

1933: In November the American Association of Textile Technologists organized. J. J. Reutlinger was made chairman and soon after became the first president.

The last year for the Silk Association. Plans for reorganization to cope with changing conditions well under way. Statistical Yearbook discontinued. The NRA Code Authority applied to silk.

1934: Du Pont chemists perfected synthetic polymers of great strength and elasticity — a step toward nylon.

General acceptance of Tootal, Broadhurst and Lee crease-resistance process (patented November 1929).

The new name for the old Silk Association of America announced — The National Federation of Textiles with headquarters in 10 East 40th St., New York City.

AATT "Silk Night." Representatives from all branches of the silk industry and testing profession were present, still remembered.

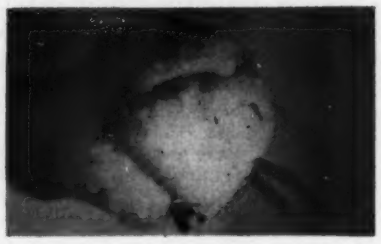
1935: Cotton production in this country reached approximately nine billion pounds, about 18 million bales.

Du Pont research brought about a superpolymer of the polyamide type in synthesized form. The superpolymer was called "66" because of the molecular structure. The first "6" indicated the number of carbon atoms in the diamine; the second "6" indicated the number of carbon atoms in the dibasic acid of which the new substance was composed.

Rayon yarn which cost about six dollars a pound in 1920 now selling for about fifty-five cents a pound.

Stünzi and Sons open their weaving plant in England for high quality silk and rayon fabrics.

Cooperative statistical report begun by the National Weavers Association.



The Rust Brothers invent their cotton picker . . .

1936: The famous Rust Brothers, Memphis, Tennessee, invented the mechanical cotton picker, the best type to date. Their invention could increase cotton production to considerable degree, if necessary. Approximately fifteen percent of available cotton land is being used at present. About 4,000 previous attempts have been made to perfect an automatic cotton picking machine.

The Rayon Division of the du Pont Company assumed further research in the "66" polymer.

American Viscose Company, Marcus Hook, Pennsylvania, profiting from the link with Courtaulds Limited, whose original plant was in Bocking, England, produced 270 million pounds of Fibro, the staple fiber.

Italy introduced Lanital, casein fiber, to the world.

Methyl Methacrylate and Vinyl made their appearance, plastic resins.

Demise of the NRA. National Federation returns to the field of general industrial cooperation. Technical director chosen.

Studies of wear tests on staple rayon fabrics under way. Three-thousand garments made and distributed through the cooperation of E. I. du Pont de Nemours and Co., Sears Roebuck and Co., and Montgomery Ward Company.

NFT represented at the first meetings of the International Labor Office of the League of Nations in Geneva by William Menke.

1937: Ethyl Cellulose and Lignin came onto the market, plastic resins. Polystyrene and Vinyl Butyral also made their debut in this year.

The protein fiber made from soybean made its appearance.

du Pont brought out experimental toothbrushes with bristling filaments made of polyamide, in their Leominster, Massachusetts, plant. These bristles were known as exton, and were more durable than similar brushes made with pig bristles.

Experimental stockings were knitted in February of this year. They were made from the new chemically-produced material developed by du Pont and the name nylon was given to the product.

Sewing thread was also produced and placed on a commercial basis.

du Pont built a plant in Belle, West Virginia, to make intermediate materials needed to make their polymer. This plant was known as the "Ammonia Department."

NFT obtains the cooperation of the cotton textile industry in acceptance of one minimum wage for all cotton, rayon and silk mills. These groups discuss the possibilities for the formation of a National Council for the Textile Industries.

1938: American Silk Journal merged with Rayon Textile Monthly, 303 Fifth Avenue, New York City. Francis A. Adams is now editor, Herbert Mauersberger, technical editor, William F. Leggett, associate editor and technical advisor.

The "semi-plant" of du Pont in Belle, West Virginia, led the way for the erection of the "pilot-plant" in Wilmington, Delaware. This plant, by midsummer, was producing brushes made from nylon fiber, as well as fabrics for practical testing.

In the fall of the year, toothbrushes of exton were on sale throughout the nation.

The polymer was made in the pilot-plant; the bristling monofils were made in the Plastic Department in Arlington, New Jersey.

By late autumn, experimental stockings were being tested from all angles, under service conditions.

In October of this year, nylon was formally announced to the public.

American Viscose Company began production of vinyon (vinyl chloride-vinyl acetate copolymer).

Owens-Corning-Fiberglas Corporation began production of Fiberglas.

NFT held important meeting of thirty executive officers of outstanding textile trade associations; much progress evolved from the sessions.

Franklin Rayon Corporation now known as Atlantic Rayon Corporation.

Rayon opens wide the doors of the synthetic fabrics and plastics industries . . .

1939: Vinyon, made from vinyl resin, introduced into the commercial field of synthetic filaments. The original patents on vinyl resin were assigned to Union Carbide and Carbon Company, New York. The resin serves as the base for making vinyon, a product of the American Viscose Company, Marcus Hook, Pennsylvania.

du Pont brought out fishing leaders of monofil, a single-strand product of relatively large diameter; placed on sale in January.

Large scale plants to make nylon polymer and yarn on a vast commercial basis were begun in Seaford, Delaware. Construction was under way in the month of January. This

(*please turn page*)

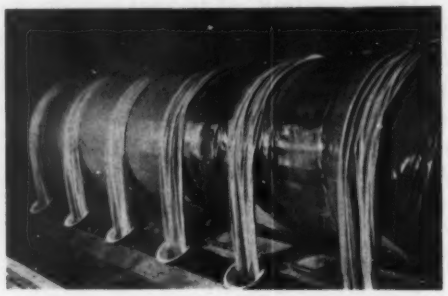
plant was in operation in less than five years after the original invention of the now famous "66" polymer.

Women's nylon stockings displayed at the San Francisco World's Fair, beginning in February.

Surgical sutures on sale in May.

Nylon hosiery placed on public sale October 15th — a great date; however, sales were confined to Wilmington stores. Yarn for stockings was made in the pilot-plant.

Melamine-Formaldehyde, Ethylcellulose, and Vinylidene Chloride introduced to the public, plastic resins.



An era of great progress in applying the science of chemistry to the fabric field. Photo courtesy Resloom (Monsanto)

Asbeston (blend of cotton and asbestos) patented by U. S. Rubber Co.

National Dairy Products Corporation began production of Aralac, casein fiber.

Japan led in raw silk trade. This commodity constituted 37% of its foreign trade. Japan supplied the world with better than 60% of its raw silk needs. The United States took about 85% of the silk exported by Japan.

The United States produced 325 million pounds of rayon yarn; Japan, 240 million pounds, Germany, 135 million pounds. Great Britain and Italy produced 120 million pounds, France, 55 million pounds. Germany and Japan had worked hand-in-glove in the matter of synthetics. Textile engineers, technicians and technologists were exchanged, and factories were constructed along modern lines.

1940: Alginate, the fiber produced from seaweed, makes its appearance in England.

Dow Chemical Company, Midland, Michigan, began commercial production of Saran.

Polyvinylidene-chloride plastics became known as Saran.

Du Pont began to build its second large unit-plant in Seaford, Delaware, in January. This plant more than doubled the old production.

Nylon placed on public sale throughout the country on May 15th; truly this day is now known as Nylon Day.

Woven and knitted fabrics on display in the Du Pont building at the New York World's Fair.

Announcement made of the second plant to be built for the manufacture of nylon yarn, at Martinsville, Virginia.

AATT held meeting for the textile trade on "Textile Preparedness for National Defense." Fuller E. Callaway, Jr., presided over the meeting which had an attendance of about 1,000 persons; held in Hotel Roosevelt, New York.

NFT prepares a brief for Temporary National Economic Committee on the introduction of rayon in the high-style fabrics class. Moves to 15 West 37th Street, New York City.

1941: NFT absorbs National Rayon Weavers Association. G. H. Conze, president since the end of NRA retires and is succeeded by William G. Lord.

The Textile Economics Bureau (Textile Organon) Stanley G. Hunt, Editor, engaged to conduct statistical service for entire rayon weaving industry. Located in 10 East 40th Street, New York City, this Bureau has done notable work in the field of statistics, widely quoted at all times.

In April, Du Pont announced that their Seaford plants were producing eight million pounds of nylon annually.

In November, the Martinsville, Virginia, plant of Du Pont was in full operation; this would double the production of nylon. Twenty million pounds were produced in 1942. This was seven times the original planning.

Fortisan appears on the market under auspices of Celanese Corporation of America.

1942: The cattail fiber, Typha, sponsored by the Burgess-Manning Company, makes its debut.

Allyl and Polyethylene perfected, plastic resins.

The War Years

1942-1945: The War Years in which NFT served as clearing house for Government procurement agencies in placing contracts for silk and nylon parachute cloths and other products. The Federation did valiant work in expediting manufacture and delivery of vitally needed materials. Served as headquarters for one year as special division in cargo and fragmentation bomb parachute fabric. Cooperated with civilian agencies in securing special supplies of linings for men's suiting. Interpreted war-time regulations for the industry.

1943: Atlantic Rayon Corporation became Textron, Inc. Name was coined by J. Walter Thompson Advertising Agency.

Silicones came on the market, plastic resins.

Elastic type Vinyon enters the textile field; product of American Viscose Company.

Soybean fiber, protein in nature, introduced by the Drackett Company.

Reynolds Metal Company introduced aluminum yarn.

1944: In October, AATCC awards the first Olney Medal for Distinguished Service to Dr. Louis A. Olney. The medal affords public recognition of outstanding achievement and contributions in the field of Textile Chemistry.

Polyfiber (polystrene fiber) introduced to market by Dow Chemical Company.

Du Pont and Carbide and Carbon Chemicals Corporation announced polyethylene.

Ardil, the peanut protein fiber, makes its appearance in announcement by Imperial Chemical Industries, Ltd., London, England.

High-heat resistant thermoplastics such as styrene copolymers commercialized.

1945: Filament of stainless steel announced.

1946: NFT returned to the civilian market. Tariff Committee, Research Committee and Standards Committee appointed. The Federation is now prepared to serve the fine fabrics industry in the future.

Nashua Manufacturing Company bought by Textron, Inc., for 10½ million dollars.

In February, the price of cotton exceeded that of viscose rayon staple; the first time that a man-made fiber actually undersold cotton. Rayon, therefore, is now in a stronger comparative position with wool than was formerly the case.

Gossett Mills and its subsidiary, Chadwick-Hoskins Company, operating 11 mills and a finishing plant in the Carolinas, bought by Textron, Inc., for 12 million dollars.

Feb. 14, Japanese raw silk sells for $22 a pound for 93% silk.

July 1, Japanese raw silk sells per pound $16.50 for 90% and $13.71 for 87%.

In early October, cotton tumbled fifty dollars a bale after a meteoric rise in price; this threw the market awry and caused the Cotton Exchange to close three times in a single two-week period. From the 15th to the 17th of October, cotton fell ten dollars in price each of these three days, included in the overall drop of $50 a bale of 500 pounds.

On the 21st, Thomas Jordan, William and Mary graduate in 1934 and an operator in the New Orleans market, admitted that it was the liquidation of his holdings that forced the closing of the New Orleans and New York Cotton Exchanges a few days prior to this time. Said to be the greatest cotton operator in the world at the time, he was caught with 140,000 bales "long" and is supposed to have lost five million dollars in the deals.

October announcement that the world cotton crop would be slightly over 22 million bales, the smallest crop in 22 years with the exception of the year 1945-46. Our cotton crop for 1946 was a trifle over 9 million bales at 500 pounds a bale. The carry-over for July, 1947 estimated to be about 17 million bales.

In December, AATCC celebrated its twenty-fifth anniversary at a Silver Jubilee Convention in Boston, Massachusetts.

1947: On January 3, the finale was written on the splurge of Tom Jordan and his corner of the cotton market which extended from mid-October 1946 to January 4, 1947. The New Orleans Cotton Exchange released a three-point program for the Chicago, New York and New Orleans Exchanges to govern the trading rules with a view to prevent price upheavals in the market. The program dealt with credits to trade accounts, margins for speculative accounts and an agency to supervise the activities of Exchange members.

February 3, Japanese raw silk averaged $2 a pound.

In February, Cogon, a plastic webbing made of Saran, an extruded monofilament instead of being extruded in webbing form or being cut from a plastic, announced by the Narrow Fabrics Division of Concordia-Gallia Company.

Masslinn, a non-woven fabric made from a blend of cotton and rayon fibers by a method that completely eliminates spinning and weaving, announced to the trade.

On March 3, the New York Cotton Exchange was again closed, this time by a one-day strike by the United Financial Employees Union, AFL, the striking union.

In March there were 398,000 looms in place in this country. Loom operation amounted to 486-million hours. A total of 950-million pounds of yarn was consumed in the manufacture of cotton broad woven goods and tire fabric; 877-million pounds were for cotton, 61-million for rayon and 12-million pounds of other yarns.

In March, Sarelon, a new artificial fiber made from protein fiber, announced to the textile industry. As far as known, the Southern Regional Laboratory of the Dept. of Agriculture was the first laboratory in this country to produce fibers from peanuts.

Vinyon N, basically different from other vinyl materials, and produced from a white, powdery resin which results from the copolymetization of vinyl chloride and acrylonitrile, announced by Union Carbide and Carbon Corporation, Buffalo, New York.

On March 13, Secretary of Agriculture, Clinton P. Anderson, was asked to set a limit to speculative cotton holdings of individual traders to 30,000 bales in all futures combined. Present limits are 30,000 bales for each future. At this time, Secretary Anderson found that there had been no manipulation in the recent cotton upheavals. He suggested that the cotton exchanges increase margins.

In April, Great Britain, under the Labor Government, now buying some cotton goods outside of the British Isles.

The House of Commons passed, 179 to 72, the Government sponsored bill to continue the buying of raw cotton by a state commission which replaced the privately operated Liverpool Cotton Exchange during the late war, and now permanently closed. The Government commission's authority is now absolute for buying raw cotton for Britain's huge cotton spinning and weaving industry.

Technical European developments include:

Cotton spinning frames popular in Europe for rayon processing. Le Blanc Roth of France and Rieter of Switzerland seem to be most popular.

High speed section beam warper developed by Fontana-Lagano, Italy, proves to be very practical.

Benninger of Uzwill, Switzerland developed a magnetic brake-equipped warping spindle, suitable for straight creel which permits to warp crepes from parallel tubes or spools a speed of 140 yards per minute in manipulation.

Shuttleless loom developed by Leontyev of the Moscow Textile Institute; somewhat similar to the shuttleless weaving machine produced by Sulzer of Winterthur.

Adolph Saurer, Switzerland, has high speed ribbon looms weaving single picks which may be operated from 300 to as high as 950 picks per minute depending on the width of the ribbon being woven.

Lyons and Ste. Etienne, France, noted for centuries for fine silks, are now giving much attention to the possibilities offered by fine denier, continuous filament acetate rayon.

(*please turn page*)

Wool grown in the United Kingdom, except in the Orkney, Shetland and outer Hebrides Islands, again will be requisitioned by the Government this year.

Return of the "free market" in the wool industry by removal of Government controls opens upsurge in wool buying. During the late war the Government took control of the domestic wool clip and gave up control on April 15, 1947; domestic and foreign buying now "free."

In April, efforts to obtain adequate supply of Australian wool for Japanese industry were futile because of anti-Japanese feeling caused by the late war; the atrocities of the Japanese, particularly against the Eighth Australian Division, have not been forgotten. Sales of only the lowest grades of wool have been allowed Japan. The newspapers, however, think the attitude is short-sighted and, in time, will work to the disadvantage of the greatest wool growing nation in the world.

On May 28th, the New York Cotton Exchange announced that it had tightened restrictions in cotton futures trading. The new rules became effective June 2nd. On and after that date margins on speculative customer accounts will be:

a. $10 a bale on futures selling up to 25-cents a pound.
b. $15 a bale from 25.01 cents to 30-cents.
c. $20 a bale from 30.01 cents to 33-cents.
d. $5 a bale additional in each price range of three-cents above 33-cents a pound.

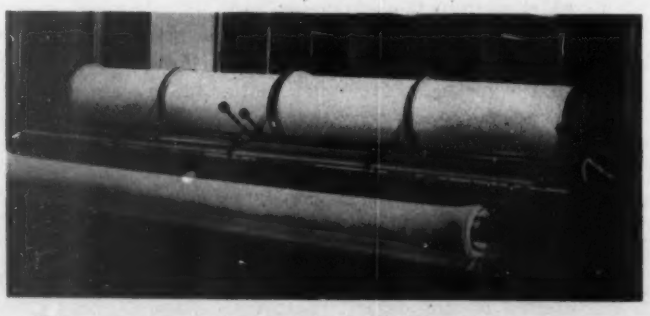
Currently, margins on speculative accounts are the same as the amended schedule up to 30-cents a pound. Above that margin, the margin is a flat $20 a bale.

The Exchange now requires that any member having net speculative position in the New York Cotton Exchange Clearing Association in excess of 5,000 bales must deposit with the Clearing Association, an additional $10 a bale on such excess.

Additional amendments cover the status of straddles, the buying and selling of futures in different months or markets and the interpretation of trade accounts which are exempt from initial margin regulations.

Henry Neubert chosen president of National Federation Of Textiles. Miss Irene Blunt named executive secretary for the 15th consecutive year. The Federation is much engaged at present with tariff reductions.

Erection of 125 new cotton mills proposed in India.



Trico — opens new horizons in the Textile Industry — photo courtesy American Viscose Co.

Textron, Inc., opens plant in Greenwich, R. I., to make tricot knitted fabrics and women's lingerie.

In June, announcement made that the 117-year-old, three-million-dollar plant of Thomas Oakes and Co., Inc., will be auctioned in July. This concern, the first in Bloomfield, N. J., was noted for years for the excellent coating and military fabric it produced.

In June, Japan shipped its first gray goods following the close of World War II to England. One-half of the order for 64-million yards delivered. Australia took 12-million yards of Japanese cotton gray goods.

AATT has membership of 750 from the textile industry.

First graduating exercises of the Labor-Management School conducted jointly by Botany Mills, Passaic, N. J., and the Textile Workers' Union of America, C.I.O. Speakers were Col. Charles F. H. Johnson, President of Botany, and George Baldanzi, executive V. P. of the union.

Curbs on Textiles in Germany eased; U. S. Cotton producers agree to allow mills to sell finished goods where they wish.

Private international trade with Japan will be resumed on August 15th, 1947. By Sept. 1st, initial deals may be consummated. General MacArthur hails move as "a step which partially lifts the economic blockade, a sound step, a partial one."

Britain announces it has enough cotton on hand for 18 months and will be a hard bargainer in world cotton markets. Will buy only if suppliers make good offers.

President Truman lifts cotton ban and allows importation or withdrawal from warehouses of an additional 23-million pounds of long staple cotton during the quota year ending September, 1947.

Pacific Mills announce Pacifix, a process for making wool fabrics washable; it is claimed to fix the size of the finished garment by holding shrinkage to a minimum. Shirts of Pacifixed fabrics show less than 2% shrinkage.

Professors Robert B. Woodward and C. H. Schramm of Harvard University rival feat of nature in making a substance like protein. Their achievement opens up an entirely new field of plastics — with this technique it may be possible to make fur, silk or wool that will be all but identical with the natural product.

In July, Plastavon, a non-woven fabric made from cotton taken raw from the bale, bleached, dyed or tinted, as desired, and bonded with synthetic resins, which in effect spot-weld the cotton fibers into a uniform sheet, now being produced by Avondale Mills, Sylacauga, Ala. Used as "throw-away napkins;" that is, the napkin is discarded after single use.

This year's cotton acreage about 18-percent higher than in 1946 but yield will be about 2-million bales under spring-estimated needs; offset, however, by carry-over of 3-million bales. July futures highest in 27 years, 39.49 cents.

The 80th Congress passed the bill which directed the Commodity Credit Corporation to continue price support for domestic wool in keeping with the 1946-support price until December 31, 1948. The bill did not contain tariff-hiking and quota-setting provision which had caused President Truman to kill an earlier version with a veto.

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AMERICAN FABRICS MAGAZINE — Reporter Publications, Inc., 350 Fifth Ave., New York 1, N. Y.

AMERICA'S FABRICS — Bendure and Pfeiffer, MacMillan Co., New York, 1946.

APPLIED TEXTILES — Linton and Friedman, State Department Education, Albany, New York, 1941.

ASSOCIATION OF COTTON TEXTILE MERCHANTS — Pamphlets and Reports, 40 Worth St., New York City.

BAKELITE COMPANY — CARBIDE AND CARBON CORPORATION — Pamphlets, New York.

CALLAWAY MILLS TEXTILE DICTIONARY — Carmichael, Linton and Price, Callaway Mills, LaGrange, Georgia, 1947.

COSTUME THROUGH THE AGES — Evans, Lippincott Company, Philadelphia, Penna., 1930.

COTTON CHATS — Draper Corporation, Hopedale, Mass., 1941.

COTTON FROM RAW MATERIAL TO FINISHED PRODUCT — Cotton Textile Institute, 320 Broadway, New York City, 1946.

COTTON HANDBOOK, RAYON HANDBOOK and WOOL HANDBOOK — Rayon Publications, 303 Fifth Ave., New York City.

HERITAGE OF COTTON — M. D. C. Crawford, G. P. Putnam's Sons New York, 1931.

MEN'S REPORTER — Reporter Publications, Inc., 350 Fifth Ave., New York 1, N. Y.

NATIONAL ASSOCIATION OF WOOL MANUFACTURERS — Pamphlets, 386 Fourth Ave., New York City.

NATIONAL FEDERATION OF TEXTILES, 389 Fifth Avenue, New York City.

RAYON, ACETATE RAYON, NYLON, et al., E. I. Du Pont de Nemours & Company, Inc., 350 Fifth Ave., New York City.

RAYON MONTHLY — 303 Fifth Ave., New York City.

ROMANCE OF FRENCH WEAVING — Rodier, Tudor Publishing Co., New York, 1936.

STORY OF EASTMAN ACETATE — A. M. Tenney Associates, 10 East 40th St., New York.

STORY OF LINEN, STORY OF WOOL — William L. Leggett, 303 Fifth Ave., New York, 1945 and 1947.

THE STORY OF RAYON, et al., American Viscose Company, 350 Fifth Ave., New York City.

TEXTILE FIBERS — J. Merritt Matthews, John Wiley & Sons, 440 Fourth Avenue, New York City, 1924. Fifth Edition, Matthews-Mauersberger, 1947.

TEXTILE WORLD — Edwin Fowle, Publisher, 330 West 42nd St., New York, C. W. Bendigo, Editor.

THE NEW FIBERS — Joseph V. Sherman and Signe Lidfeldt Sherman, D. Van Nostrand Co., 250 Fourth Ave., New York, 1947.

WOMEN'S REPORTER — Reporter Publications, Inc., 350 Fifth Ave., New York 1, N. Y.

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The secret is simple. Here it is: all AQ trico-jerseys are made on the principle of two interlocking yarns tied after every loop. That's why they don't run or ravel, sag or stretch—and remain lovely to look at, a joy to wear—and a sure fire money-maker to merchandise.

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Barbour Fabrics Cover Cover Girls

These two teen-agers are nationally known "Cover Girls". Here they are wearing advance fashioned coats of Barbour Fabric, tailored by "Kitten's Ear". Photograph taken at the famous Wayside Inn, Sudbury, Mass.

KITTEN'S EAR reg'd FLEECE

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